*Price: £1.95*

# ST *APPLICATIONS*

*The Magazine for Users of Atari ST, STE, Falcon and TT Computers* *Issue No. 35, November 1993*

## THIS MONTH

### Reviews

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- DataLite 2
- Repro CD

### Articles

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- Beginners' Forum
- Using GFA Basic Pt 2
- HiSoft Profile
- Monitor Life Preserver

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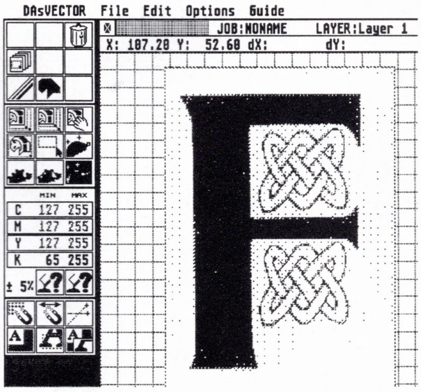
- Desktop Discussions
- Programmers' Forum
- Going On-Line
- Forum
- Grafix Arts
- PD Update v13.8
- Falcon News & Forum

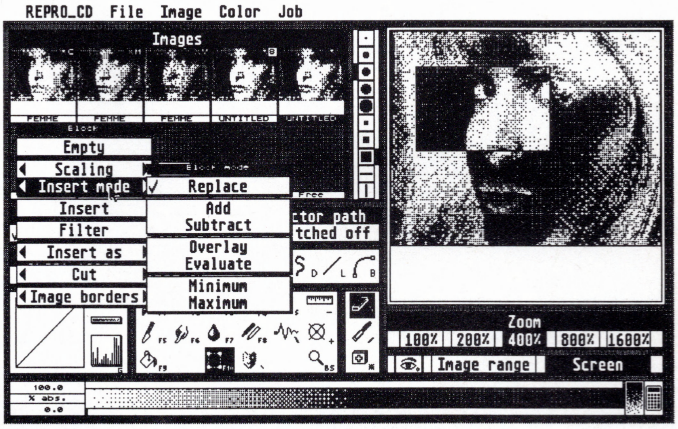
COMPUTERBILD

## DA's Vektor



DASVECTOR File Edit Options Guide
JOB:NONAME
LAYER:Layer 1
X: 107.20 Y: 52.60 dX: dY:
MIN MAX
C 127 255
M 127 255
Y 127 255
K 65 255
± 5%

Two new programs from CGS Computerbild bring the same kind of power in the graphics/text effects and colour re-touching departments that PC and Mac users have been enjoying for years. Is the Atari colour publishing market at last on the way up?



REPRO_CD File Image Color Job
Images
FEMME
FEMME
FEMME
UNTITLED
UNTITLED
Block
Empty
Scaling
Insert mode
Insert
Filter
Insert as
Cut
Image borders
Block mode
✓ Replace
Add
Subtract
Overlay
Evaluate
Minimum
Maximum
Free
ctor path
tched off
Zoom
100%
200%
400%
800%
1600%
Image range
Screen

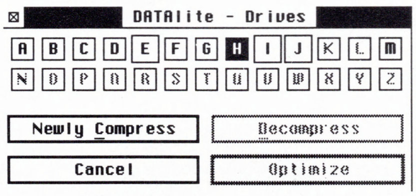
CGS

## Repro CD

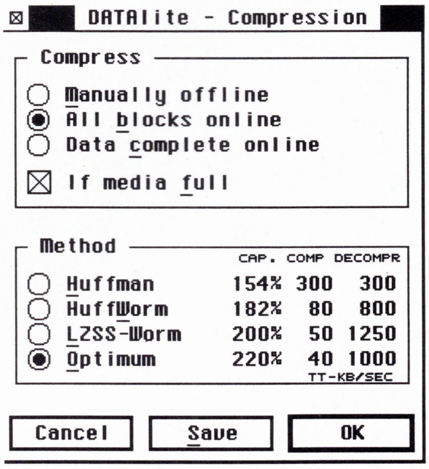
# HiSoft

## Company Profile

The first in a series of company profiles by Dave Howell appears this month: he interviews the founder member of HiSoft, David Link, looking at the company's origins and background, its current ventures and ideas for possible future development...



DATAlite - Drives
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z
Newly Compress
Decompress
Cancel
Optimize



DATAlite - Compression

Compress

○ Manually offline
● All blocks online
○ Data complete online
☒ If media full

Method

| | CAP. | COMP | DECOMPR |
|---|---|---|---|
| ○ Huffman | 154% | 300 | 300 |
| ○ HuffWorm | 182% | 80 | 800 |
| ○ LZSS-Worm | 200% | 50 | 1250 |
| ● Optimum | 220% | 40 | 1000 |
| | | TT-KB/SEC | |

Cancel
Save
OK

...and from that very stable comes DataLite 2, a program that promises the same disk-doubling benefits that PC users take for granted.
Review by Michael Baxter.

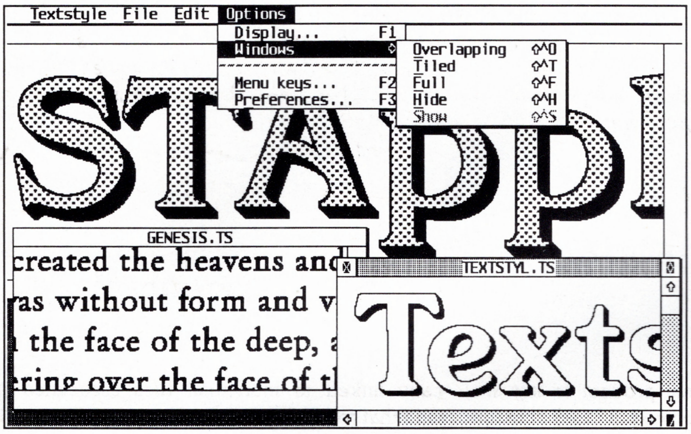
## DataLite

*Printed in the U.K.*

*Post Office: Non-deliverable copies should be returned to The ST Club, 2 Broadway, Nottingham, NG1 1PS.*

# Textstyle

## Text styler for Atari ST/TT/Falcon computers


Textstyle File Edit Options
Display... F1
Windows
Menu keys... F2
Preferences... F3
Overlapping ^O
Tiled ^T
Full ^F
Hide ^H
Show ^S
STAPPl
GENESIS.TS
created the heavens and
as without form and v
the face of the deep,
ring over the face of t
TEXTSTYL.TS
Texts

Launch price £14.95
(RRP £19.95)
Available 25 October 1993
Written by Jeremy Hughes

**The ST Club**
2 Broadway
Nottingham
NG1 1PS
Phone (0602) 410241

☐ Create headlines and logos from GEM fonts or Calamus fonts.

☐ Import ASCII text containing up to 200 characters, or edit text within Textstyle.

☐ Text size and resolution can be adjusted freely.

☐ Font sizes can be selected in tenths of a point from 1.0 to 999.9 points (13 inches).

☐ Text styles include bold, light, italic, underline, outline, shadow, and pattern.

☐ Text styles can be configured to adjust bold increase, outline width, shadow offset, italic angle, text and shadow patterns etc. The angle of italicized text can be adjusted in 1-degree steps from 1 to 45 degrees (GEM skewing is fixed at 27 degrees). Patterns include 43 predefined patterns and 2 user-configurable halftone screens.

☐ Leading can be adjusted in 1-point sizes. Word and letter spacing can be adjusted in 1-pixel increments.

☐ Text can be left-aligned, centred, right-aligned, and justified.

☐ Styled text can be saved in Textstyle format (for reuse at a later date), or exported in IMG or TIFF format. Exported image files can be loaded into other programs or printed from Imagecopy.

☐ Advanced user interface including hierarchical menus, multi-key and user-configurable single-key shortcuts, pop-up menus, mouse-positioned alerts etc.

---

# Imagecopy 2

## Image utility for Atari ST/TT/Falcon computers

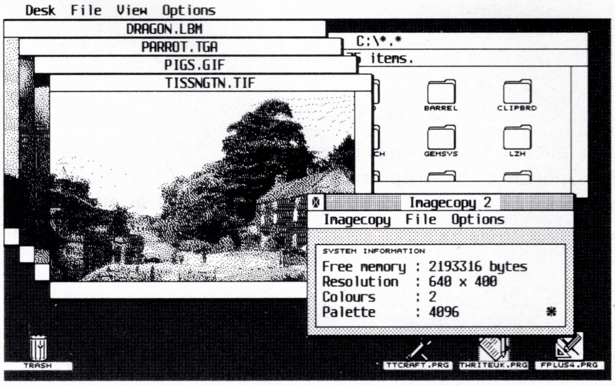
Copy images from screen in any ST/TT/Falcon video mode. Images can be copied by pressing Alt-Help, and a flexible rubber-banding system allows images to be selected with a fine degree of accuracy.

Display images in any ST/TT/Falcon video mode. Colour-mapping and dithering is used to display images in video modes which contain fewer colours. Several images may be displayed simultaneously in GEM-window or full-screen display modes.

Print images and screen dumps in black and white or colour on a wide range of printers, including 9-pin and 24-pin dot-matrix printers, Bubblejet printers, Deskjet, and Laserjet printers. Imagecopy 2 offers print-scaling, variable-sized halftones (up to 16x16) for realistic colour depth, and comprehensive colour controls, and is able to print images containing up to sixteen million different colours (24-bit true-colour). Print-colour options include: monochrome, CMY colour, CMYK colour, CMY separation, and CMYK separation. Colour separation modes can be used to print full-colour images on a monochrome printer.

Convert images between different formats (see next paragraph).

Extensive range of image formats: Imagecopy reads the following formats: TIFF, Targa, IMG, extended IMG, DEGAS, Neochrome, Art Director, Tiny, GIF, Spectrum, IFF/Deluxe Paint, Windows bitmap, OS/2 bitmap, PC Paintbrush (PCX), and Macpaint. Images can be saved in the following formats: TIFF, Targa, extended IMG, DEGAS, and RSC. TIFF support includes baseline TIFF apart from Huffman compression (uncommon), common extensions such as LZW compression, and the ability to read non-standard TIFF images produced by ST programs such as Retouche. The ability to print TIFF files allows Imagecopy 2 to be used as a print program with True Paint.


Desk File View Options
DRAGON.LBM
PARROT.TGA
PIGS.GIF
TISSNGTN.TIF
C:\*.*
items.
BARREL
CLIPBRD
GEMSYS
LZH
Imagecopy 2
Imagecopy File Options
TRASH
TTCRAFT.PRG
THRITEUK.PRG
FPLUS4.PRG

```
SYSTEM INFORMATION
Free memory : 2193316 bytes
Resolution  : 640 x 400
Colours     : 2
Palette     : 4096
```

User-friendly GEM interface, including window menu bar, pop-up menus, colour sliders. Can be used as an accessory or stand-alone program.

**Price - £19.95**
Upgrades: from Imagecopy v1 - £10.00; from Imagecopy Colour - £5.00.
Return master disk only.

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Phone (0602) 410241

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# CREDITS

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### Contributions

The articles in *ST Applications* are written by users for users. Everyone reading this magazine will have something to contribute; even if you do not feel able to do a full-length review or article there is the Forum section for short hints, tips and questions. If you are interested in writing for *ST Applications* – regularly or irregularly – please write for a copy of our terms and conditions. We always do our best to reward quality work with appropriate remuneration.

## Seriously Speaking

The first "Le'ST Get Serious Show", held on 14th August, was hailed a great success by the organisers. Attendance was around 500, which was encouraging when you consider how little advance notice was given. Attendance at the second event (entitled 'The 1993 Atari Show'), which took place at the end of September, was expected to easily exceed this, with around 200 advance tickets having been purchased by the time we went to press. Everyone who exhibited at the first show booked space for the second and they were joined by JCA Europe, Prospero and others. The next Le'ST Get Serious Show will take place at the NEC in Birmingham on 5th December and will be followed by the Manchester event at Haydock Park on 12th December. Both events will run from 10am to 6pm and tickets cost £5.00 or £3.00 after 2pm. Fast Lane tickets are available from Titan Designs on 021 4141630.

## Stop Wasting Paper On Your Thoughts!

*Thought!* is an original product to say the least. It is an 'ideas processor' and runs on any ST, TT or Falcon computer. Thought! is described as 'an entirely new concept and an absolutely essential tool for programmers, authors, manual writers – in fact anyone who develops anything on any Atari computer'. It allows you to organise your tasks in a structured manner, with the ability to embed commands within its structure and run any program directly from the Thought! shell.

Still confused? Well here's how it works. Suppose you were writing a program, simply create a Thought! 'Structure' with a different 'Symbol' for each routine. The Thought! Structure is a box (different types have different functions) which can be placed anywhere on screen. A Symbol is then created which can be edited, moved or deleted at any time. Each Symbol can call up any of ten programs which are automatically linked to individual files associated with that routine.

Thought! is an open ended system which could conceivably be used as an address book, a diary, a filing system, a programmer's shell, an outline editor or indeed almost anything you seriously want it to be. It is GEM based, incorporates movable dialogue boxes and is fully Multi-TOS and SpeedoGDOS compatible. Thought! normally costs £69.95 but is available at an introductory price of £49.95 until 31st December 1993. For further details, contact *Titan Designs Ltd*, 6 Witherford Way, Selly Oak, Birmingham B29 4AX; Tel:/Fax: 021 414 1630.

Also new from Titan Designs is *Hyperion*, a True Colour image processing and editing package. The Falcon version is already out and an ST version is expected soon. See the news item in Falcon Applications for details.

## Eagle Under Development

*GE-SOFT Computersystems* in Germany have recently announced the existence of a TT-compatible motherboard known as the Eagle. It goes into production next month and is expected to cost around 3000DM, about £1250 at current exchange rates. Coincidentally, Atari are expected to announce their 68040 based Falcon next month too. There was some talk about it being called the Eagle, but perhaps it will now emerge as the Falcon 040!

Getting back to GE-SOFT's Eagle, it will have a 68030 running at 50Mhz and comes with 4Mb of system RAM, expandable to 14Mb. Up to 64Mb of fast RAM can be added, or 256Mb on an additional board. The motherboard dimensions make it suitable for fitting into a standard PC case. It is said to run at 2 to 2.5 times the speed of the standard TT, owing to the 50Mhz clock rate. The Eagle supports ST high, TT medium and TT high resolutions and includes a DMA Out port, cartridge port and a socket allowing connection to MF II keyboards. For further details contact *GE-SOFT Computersystems*, PO Box 13 24, Troisdorf, Germany; Tel: +49 2241 406389; Fax: +49 2241 406589.

# Read_Me 1st

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## Advertising

There is a limited amount of space for commercial advertising in each issue of *ST Applications*. Contact Nicky Wilson on 0602-410241 for further details and to request a media-pack. Subscribers can place free classified advertisements - see page 57 for details.

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**United Kingdom:**
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|---|---|---|
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| 12 issues + 6 D/Mags : | £30.50 | £38.50 |

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## Overseas Distribution

Distribution overseas is dealt with via our agents:

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**Canadian office:** Tel: 519 539 0200; Fax: 519 539 9725.

Contact us for details of your nearest *ST Applications* stockist.

## Disk Mags

These are bi-monthly compilations of the best PD software to come to our attention in the preceding couple of months - not magazines on disk. The next Disk Mag, DMG.38, will be dispatched a few days after issue 36 is sent out.

# Sweeping Changes At MicroProse

Following Spectrum Holobyte's merger with MicroProse (ST Applications 33), the firm have announced sweeping changes to the way it is run. In a cost cutting exercise designed to cut the workforce by around 30%, they have closed down two of their three UK offices and their entire French operation. The remaining UK office at Tetbury is to head the European division but even they have not come out of this unscathed, with the PR manager and several others having been made redundant. It is rumoured that UBI Soft are to handle the distribution of MicroProse products in France. The only division to emerge intact appears to be MicroProse Germany, which accounts for over 30% of their business worldwide.

Decisions have also been taken as to future products. The company have decided to concentrate on flight simulators and strategy games and are reputed to have abandoned a number of other products which were already under development.

# Future Looking Bleak?

*Future Publishing* have recently released their ABC (Audit Bureau of Circulation) figures for the period January to June 1993 and they show a dramatic fall in sales for ST Format. Monthly sales averaged over the period were 52,815 copies as opposed to 62,210 for the previous period. This is a drop of 15% over 6 months and 24% over the last year.

Europress have yet to publish their sales figures for ST User and ST Review over the same period but these are unlikely to give cause for jubilation either. I seriously expect to see a similar percentage fall. Despite the fact that a lot of criticism is levelled at the glossies from time to time, a drop in sales of 24% over 12 months has to be seen as serious. There are so few ST user groups around nowadays that magazines (ST Applications included) are the only source of information left for serious users. Let's hope Atari can get their act together with the Falcon and help stabilise the market before it's too late!

# Christmas Presents from Daze

*Daze Marketing* have gone in for a spectacular way of promoting their wares: they've sent me a Christmas card.

Now it might seem to you that it's a little early for that sort of thing. You'd be right. But it's backed up with a superb offer and a brilliant piece of marketing. Take a look at some of their press release:

"It may only be September, but in our hearts it's Christmas everyday, and here at Daze we are launching a package of top selling games at unprecedented budget prices. The offer only lasts from October 1st until New Year's Eve 1993 - then we're off down the pub." Lovely.

And what they have on offer are: Storm Master, Metal Mutant, Crystals of Arborea (billed as the prequel to Ishar), Boston Bomb Club, Superski 2 and Starblade, a nice little collection of stylish games all produced by Silmarils, a French company which constantly seems plagued by an impassioned attack of panache.

The bad news is that none of these games can be convinced to run on a Falcon. The good news for the 99% of you who haven't made the move over yet is that they cost only £2.99, a stunningly good price, but only direct.

Piper

# Silica Plug the Gap

Since Atari discontinued their SM144 mono monitor, a number of third party alternatives (usually modified VGA monitors) have been appearing. The latest is the Tatung MM14SAE, a 14-inch mono monitor with a paper white display, available from Silica Systems for £129.95. Also available from Silica is the ViewTek VT12, a 12-inch ST-compatible greyscale monitor at £69. It represents colours as shades of grey and operates in low or medium resolution. It can be used in high resolution with the emulator software supplied. For further details on either monitor, contact *Silica Systems*, 1-4 The Mews, Hatherly Road, Sidcup, Kent DA14 4DX; Tel: 081 309 1111; Fax: 081 308 0608.

# News In Brief

## ST Software Sales Holding Their Own

Sales of ST software are hardly earth shattering nowadays but the good news is that they are holding their own. The ST is third in the league table for sales of full price software, behind the Amiga and PC compatibles, and fourth for budget software, with the ageing Commodore 64 in second place, ahead of the PC. ST sales of full price software accounted for 7% of the market and budget sales for 8.5%. These figures were taken from recent software charts compiled by leading market researchers, Gallup, and exclude sales of cartridge based software.

## Hasbro Takes A Bite Out Of Virgin

It has recently emerged that Hasbro, the world's largest toy manufacturer, has bought a 15% stake in Virgin Interactive Entertainment, the software arm of the Virgin Group. This is particularly surprising since the Virgin Group as a whole has been doing so well recently and seemed well placed to fund any expansion of VIE's activities internally. The money raised from the merger, reputed to be in the region of $25 million, is to be re-invested in the company. As a result of the deal, Virgin will market a number of Hasbro's existing products and the two companies will work together in the development and marketing of several new products.

## CGS On The Move

CGS ComputerBild have recently moved. Their new address is CGS ComputerBild, 231 Northborough Road, Norbury, London SW16 4TU; Tel: 081 679 7307; Fax: 081 764 7898.

## Nintendo Plans To Defeat The Jaguar!

Nintendo's challenger to the Jaguar has been announced. It comes about as a result of a deal with Silicon Graphics, the people behind the special effects used in Jurassic Park, Terminator 2 and other blockbuster movies. The unnamed console is still in the development stage and will be 64-bit and RISC based like the Jaguar but incorporating technology from SGI's workstations. A price tag of $250 has been suggested, but don't expect to see it before 1995 at the earliest!

## Calamus News

*JCA Europe* have just announced the availability of Calamus S v2, a new version of Calamus SL and Outline Art v3. Calamus S v2 remains at £335 for the complete package but existing users of Calamus v1.09N can upgrade for £169. Calamus S users can upgrade to v2 for £59. The new version of Calamus SL continues to sell for £575 but existing users of Calamus v1.09 can upgrade for £382 and Calamus S users for £339. Calamus SL users can upgrade for an administration charge of £20.

Outline Art has received a major facelift and can now create full colour vector graphics. It can also be used to wrap, distort and text flow Calamus fonts. Outline Art v3 costs £245 but users of v1.x can upgrade for £105. In all cases, simply return your master disks to JCA when ordering the upgrade. For further details contact *JCA Europe Ltd*, 30a School Road, Tilehurst, Reading, Berks. RG3 5AN; Tel: 0734 452416; Fax: 0734 451239.

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| Supercharged Easy Draw 2 | £59.95 |
| Cyber Studio (CAD 3D v2) | £39.95 |
| Cyber Paint v2 | £39.95 |
| DA Vektor | £149.00 |

COMPUTERS/MONITORS/PRINTERS

NEW LOW PRICES ON ATARI COMPUTERS

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| 520STE Discovery Extra upgraded to 1Mb | £199.95 |
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| 1040STE Family Curriculum II | £209.95 |
| 1040STE Music Master Pack | £229.00 |
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| Falcon 030 4MB | *SPECIAL OFFER* |
| Falcon 030 4Mb 65HD | £959.00 |
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MANY OTHER TITLES IN STOCK

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| Midex + | £349.00 |
| Concerto | £34.95 |
| Quartet | £39.95 |
| Feeling Partner | £129.00 |
| KCS Omega | £249.00 |
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| D2D 4T/FX for Falcon | £295.00 |
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**TOS 2.06 Official UK Versions in Stock**

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| Hisoft Basic 2 | £65.00 |
| Hisoft C. Interpreter | £42.00 |
| Hisoft Lattice C v5.5 | £109.00 |
| Hisoft Nevada Cobol (With CP/M) | £45.00 |
| Hisoft High Speed Pascal | £79.95 |
| FTL Modula 2 Developer | £79.95 |
| GFA Basic Interpreter v3.5 | £45.00 |
| GFA Basic Compiler v3.5 | £24.90 |
| Prospero Pascal | £79.95 |
| Prospero Fortran | £79.95 |
| Prospero C | £79.95 |
| Prospero Developers Toolkit | £55.95 |

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| | |
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| ***NEW*** Datalite 2 | £42.95 |
| Neodesk v3 | £29.95 |
| Harlekin 2 | £44.90 |
| XBoot 3 | £29.95 |
| Diamond Back II | £34.90 |
| Diamond Edge | £39.95 |
| G+Plus | £19.95 |
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| SLM804 Replacement Toner | £37.95 |

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# JAGUAR™

# Big Cat Let Loose!

*Unless you've been visiting the Moon recently, you'll have heard all about the launch of the Jaguar, Atari's super games console of the 90's. The glossies were full of it, but just how much did they tell you and how accurate was it all? We were far from being the first to cover the Jaguar's launch. Instead we decided to let the dust settle and take a step back. Since this is an in-depth look at the Jaguar, it will be split between this issue and next month's.*

This month we take a look at the merits of games consoles versus computers, the basic system architecture of the Jaguar and its custom built multi-processor chips, Tom and Jerry. Next month we will look at its graphic capabilities, its connectivity to the outside world, the application of CD-ROM on the Jaguar and Atari's marketing plans. I'd like to thank William Hern and Wayne Barron in Canada and Nial Grimes in the UK for digging up the masses of information used to compile this article. William was the first ST Applications contributor to see one 'live' at the Comdex Show in The States last month.

The Atari Jaguar was unveiled at a press conference at Atari Corporation's Sunnyvale headquarters in California on 18th August. Although the Jaguar is a games console and therefore of little interest to us serious users, it does represent a major leap forward by way of technology and may conceivably form the basis of the next generation of Atari computers past the year 2000. It also has enormous potential as an educational tool if adequate CD-ROM based titles appear in this area. That's why we are giving it so much leeway in ST Applications.

It must be said right from the start that the Jaguar in its present form is NOT a computer by any stretch of the imagination. It lacks much of the 'guts' of a 'real' computer and that is one, but not the only, reason why it sells so cheaply. The other reason is that manufacturing costs have been kept down by amalgamating the main functions of the machine into two multi-functional chips - more on them later. The Jaguar is a state of the art games console where everything has been optimised for playing games. The games on the Jaguar will be capable of out-performing anything on the Falcon and indeed much of the software on arcade machines. However, just try running a serious piece of software like Calamus (were such a thing possible) and it would fail miserably: the Jaguar's internal architecture simply isn't up to it. This is why games consoles are so popular nowadays. They play games better than computers, but can do very little else.

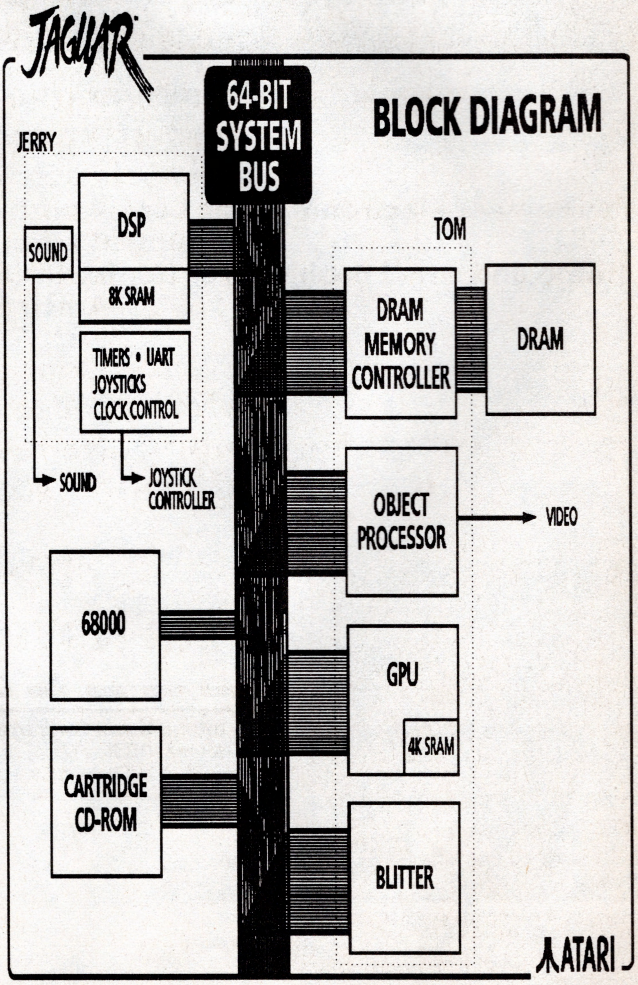
Were a 'real' computer to be built around the technology incorporated into the Jaguar, it would be at least as powerful as a low end workstation. At the present time, the costs of producing such a beast would be prohibitive, but in five or six years' time, the economics of the situation may be just about right.

The Jaguar is based around a 64-bit RISC architecture designed by Atari and comes with 2 Megabytes of Dynamic RAM. It has five dedicated processors, four of which have been combined into two chips along with other components, these multi-purpose chips being known as Tom and Jerry. Tom incorporates the DRAM memory controller, object processor, Graphic Processing Unit and the blitter. Jerry has the DSP, a sound block, and a combined unit which includes timers, UART, joysticks and clock control. The fifth processor is a 'humble' Motorola 68000 running at 13.3 Mhz (almost twice the speed of the ST's) which acts as a general purpose controller. According to Atari's Richard Miller, the Tom and Jerry chips have taken about three years to develop.

Let's put Tom under the microscope first. The three processors included here are the object processor, Graphic Processing Unit (GPU) and the blitter. The Object Processor is a programmable chip which can be used in a number of different ways to act as a variety of different video architectures. Atari's Press Release quotes examples of its use as being an advanced sprite engine for both character mapped and pixel mapped systems, although they say there are many other valid adaptations. The GPU is also programmable and has 4K of zero wait state internal Static RAM. It handles all the graphic effects, including shading and rotation, at high speed. The GPU runs at 27mips (million instructions per second), stunningly fast when compared to the ST at 0.25mips and the Falcon at 3.84mips! It is closely linked to the blitter, which incorporates hardware support for Z-buffering and Gouraud shading. In addition, Tom has the DRAM memory controller, essentially the equivalent of the MMU on an ST.

Now let's look at Jerry. The processor incorporated into Jerry is the famed DSP we all know and love from the Falcon. It too runs at 27MIPs and has 8K of internal zero wait state Static RAM. It controls the CD quality sound capabilities of the Jaguar. No details have been released on the other functions built into Jerry.

*We continue our look at the Jaguar next month.*



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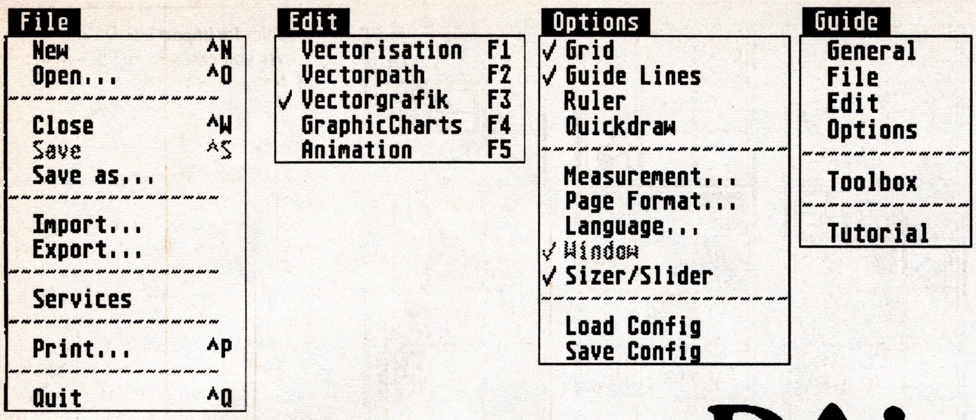


Fig. 3: The drop-down menus give you access to all of the basic elements of the package; opening and creating jobs, importing files etc; switching between modules and setting measurement units etc. Under the FILE menu the "Services" option allows you to access the utilities bundled with DA's Vektor.

# DA's Vektor

## The Digital Design Studio

### Reviewed by Keith Quinn

*At long last a package has finally arrived for the ST/TT which can produce the graphic and text effects you've seen on the MAC and PC and wished you could duplicate.*

Despite its name, you're not restricted to fancy text effects and vector drawing: the suite of programmes that make up the package includes a sophisticated vectorising module; a module dedicated to producing a full range of presentation graphics (that's charts and graphs to you and me!) and a vector animation suite all working in full 24-bit colour!

An interesting, and at first glance, somewhat confusing collection of features. However, the aim of the package is to enable you and me to create professional, high quality graphics for our documents and (with the assistance of a genlock) video presentations. Hype you've heard before? Well in this case, these aren't empty promises. After spending a short time learning the basics, you can very quickly produce some stunning graphics.

For those of you already using Didot Professional and Retouche Professional, DA's Vektor is the perfect companion, with its layout and many of its import and export functions mirroring those of these two programmes.

## Presentation

DA's Vektor comes on three double-sided disks, with an additional disk containing DA's Knowhow (Digital Arts' help text system), and the files for DA's Vektor's on-line reference manual. The software packed in a sturdy if uninspiring box and also includes an A5 ring bound introductory manual to get you up and running. This is written with the beginner in mind whilst also catering for those who have a fair degree of experience in using complicated applications.

As an introduction, it does the job well, introducing the user to most of the main features of the package, giving suggestions for things to try, which in turn demonstrate some of the key features of each of the modules. It also includes a useful chapter on colour systems used in computer display and colour printing. At no time does this short manual pretend to be comprehensive. All the detailed information is contained in the on-line reference manual; more of which in a moment.

## Installation

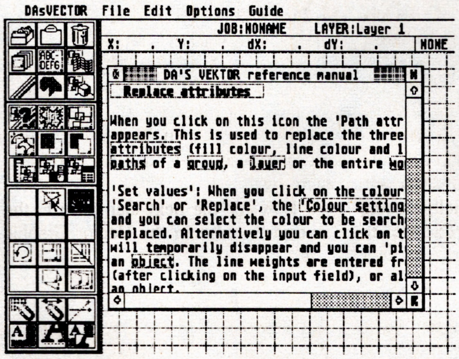
Each of disks contains self-extracting archives, which make installation simplicity itself. Simply copy the archives onto any partition on your hard drive (you'll need just over 3.5 Mb free space) and double click. Detailed instructions for installation are included in a README file on one of the master disks.

The only tricky bit in the installation process is installing "Knowhow". The instructions supplied are rather confusing and it took me some time to get it working. Basically, I'd suggest you ignore the README and do the following: first, Copy the two Knowhow accessory files (KNOWHOW.ACC & KNOWHOW.RSC) to the boot partition of your drive; next move all the other Knowhow related files, in their folder, to the partition where you have installed DA's Vektor, saving your default file to the root of that partition when you first load up the manual.

So, it's on the hard disk; how will you know what you're doing?

## A bit of "knowhow"....

Those of you who have seen the help text routines on PC Windows programmes will have a good idea of the thinking behind "Knowhow". Instead of sitting with the reference manual by you side, the reference manual is on screen. To access the information it's simply a matter of placing the mouse pointer over one of the icons and pressing the HELP key. Another window will open containing all the information relating to the icon/function in question, and like all other GEM windows, this can be moved or resized in any way you want (see fig.1).


DAsVECTOR File Edit Options Guide
JOB:NONAME LAYER:Layer 1
X: . Y: . dX: . dY: .
NONE
DA'S VEKTOR reference manual

Replace attributes

When you click on this icon the 'Path attr
appears. This is used to replace the three
attributes (fill colour, line colour and l
paths of a group, a layer or the entire wo

'Set values': When you click on the colour
'Search' or 'Replace', the 'Colour setting
and you can select the colour to be search
replaced. Alternatively you can click on t
will temporarily disappear and you can 'pi
an object. The line weights are entered fr
(after clicking on the input field), or al
an object.

Fig.1: DA's Knowhow in action. Having the reference manual available constantly is an asset. No more searching through indexes to find what you want; just place the mouse pointer over the icon you want to know about and press "HELP".

Again, in common with the Microsoft Windows HELP text, each of the entries contained in the manual in Knowhow is cross referenced with other relevant entries and can be accessed via a Keyword system, which in this case can be identified as words appearing in the text with a box round them. Simply click on these keywords and Knowhow calls up the relevant information.

It takes some time to get used to this system, but perseverance does pay off as help is always on tap: almost instantly. No more leafing through books or folders on the desk. However, it does mean that when you begin to use the programme you will spend a lot of time simply reading the help text on screen, which can in itself increase the frustration factor of learning to use a new application. My advice would be to read the short ring-bound introductory manual and try out some of the things it suggests, before using the programme with Knowhow running. This at least lets you achieve something before you need to start rummaging around in the dark recesses of the reference manual.

## All aboard...

So, time for a guided tour of the package itself. Basically, DA's Vektor is divided into five separate but interacting modules, each with its own toolbox (see fig.2). Of these, the Vector Graphic module is the core of the whole package. Again those of you who have used Didot Professional will instantly recognise this layout and many of the icons are the same as those found in Didot.

But before we look at each of these modules in turn, let's take a look at the menu bar (fig.3).

Yes, unlike its stablemates, DA's Vektor makes use of GEM. Not necessarily a strong point you may think, but it does mean that it is compatible with

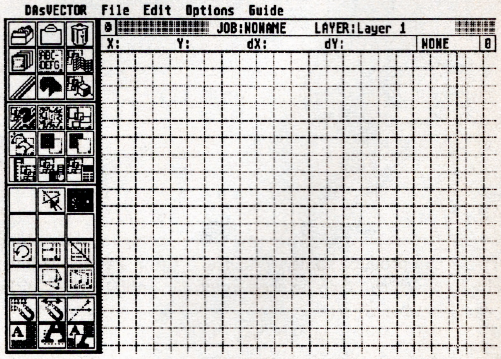


Fig.4: The main work area. The overall size is 819mm×819mm from which you can select a smaller area to work in via the Page Format dialogue box. Slider bars enable you to scroll around this area, although deselecting this and using ALT + the right mouse button enables you to move around the full area more quickly (à la Didot Professional). The grid can be adjusted to suit your needs or switched off entirely.

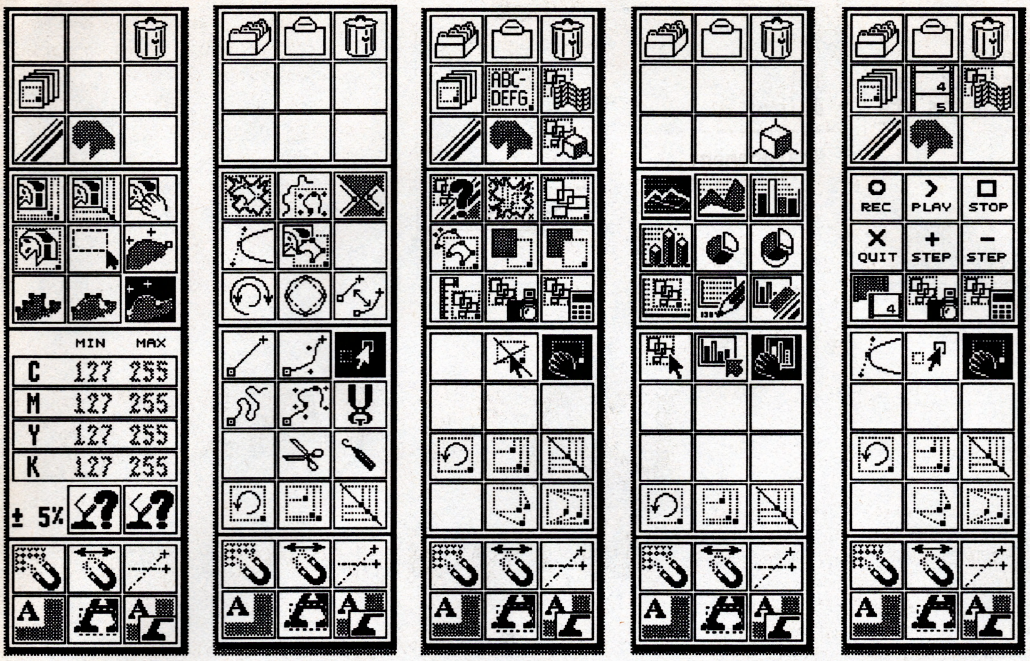


Fig.2: Each of the modules that make up DA's Vektor has its own toolbox. From right to left: the Vectorisor; the Path Editor; the Vector Graphic Editor; the Graphic Chart Editor and finally, the Animation module. If you've worked with Didot Professional you'll feel at home here. Despite their complexity, you can get to grips with the basics fairly quickly.

MultiTos (I know, I've tried it out), unlike current versions of Didot Professional. Though be warned, trying to run big applications such as DA's Vektor and Calamus SL together takes an awful lot of memory.

Back to business. Starting at the far left of the menu bar takes you to the Desk menu. It is here you make contact with "Knowhow", Digital Arts' help text system which I've explained in detail above.

Next along, the FILE menu. From here you have the usual import/export, load/save functions as well as being able to access the print functions and the utilities bundled with the package through clicking on "Services".

Having selected "Services", a small menu pops up listing the utilities available. These include a bitmap image convertor (allowing you to convert images to the TIC and TIH formats preferred by the programme), a colour and greyscale gradient fill generator, a player programme for the animation files generated by the package and a Postscript Type 1 font convertor. These utilities are extremely useful and run like parallel applications, returning you to DA's Vektor when you quit. However, they can also be used independently by double clicking on the .PRG files on the desktop.

In particular, the gradient fill generator can produce some wonderful fill effects which can then be used to fill any vector text or object.

The "Edit" menu allows you to swap between modules simply by selecting the module name from the list. This can also be achieved by using the appropriate F key.

Under the "Options" menu you can select and deselect a range of basic features of the working environment (fig.4) as well as selecting measurement units, the page format and even the language (either English or German) that you want to work in.

Finally, the "Guide" menu. This is another route into "Knowhow" and the on-line manual described above. The final menu item is for a tutorial, but this is not included with the version I have been using and so I can't comment on it.

The drop down menus only deal with the most basic aspect of using the package; the really exciting stuff is tucked away in the module toolboxes.

## Vector graphics

As I said earlier, the Vector Graphics Modules is the heart of the package. No matter what you are doing, at some point you will need to work in this module.

At the top of this toolbox you have icons covering the clipboard, library and layer menus which operate in the same manner as in Didot. The Trashcan is also located here, which now operates à la Mac: i.e. you can now recover things from the trash, as long as there has been enough free RAM to retain it.

Next you have the line and area fills. This is where the real fun starts! Under the Area Fill sub menu you can select any colour from 16 million using the Colour selector (fig.5) or from a colour user-definable palette (fig.6). Regardless of the colour display capabilities of your computer, DA's Vektor always works in full 24-bit colour internally, using sophisticated dithering routines to approximate these colours on your monitor.

A word of advice is worthwhile at this point. It's important to bear in mind that displaying colours on screen and printing colours employ two different systems. This means that the colours you see on screen usually turn out darker when you print them out. I confirmed this using an HP 500c. It also means that if you are working on something which will end up in print you should select the CMYK option for colour setting. If you are working on a vector animation on the other hand, you should select the RGB option for colour setting.

Also in the Area fill sub menu is the bitmap fill option. This allows you to use 24-bit colour and 256-greyscale images as colour fill for any vector object or text (fig.7). Really, the potential of this option is limited only by your imagination, and I've yet to run out of imagination! When using greyscale fills you can even overlay them with a colour tint by using the colour setting options described above. The only way to really appreciate the power and impact of the function is to play around with it.

Back to the tour! Also in the Vector Graphic menu you'll find a range of tools to distort and reshape your text and graphics (fig.8) as well as a bézier grid option which allows you to project text and graphics onto either a preset or user-defined grid for even more exotic effects (fig.9). This is taken a step further with the inclusion of a calculator function similar to that found in "O-Line Art" by DMC (fig.10). The manual provides instructions on how to programme the calculator as well as using the predefined formulae supplied, but I haven't been brave enough to try this yet.

Now for the next star feature: the extruder - also in the Vector Graphic toolbox.

Using the slider controls of the extruder you can generate a range of 3-D effects in text and graphics (fig.11). Again, the extruded shapes can be given any one of 16 million colours and the light source can be moved around to subtly alter the shading.

Using this feature alone you can quickly create some stunning text effects and export the results as vector graphics for import into Didot.

As you can see, an incredible range of features with stunning possibilities. And this is only one module.

## Autotracing

Moving on, autotracing is accessed in the Vectorising module (fig.12).

Unlike other autotracing programmes I've used, the vectoriser in DA's Vektor only allows you to import and trace greyscale or colour images. This might seem a bit strange at first, but (believe me) it works really well.

First of all, you need to import the image you want to trace. This is accomplished by selecting import from the "File" menu. The Vectorisor will only import images in .TIC or .TIH formats, which might mean you'll need to convert your chosen graphic using the converter in the "Services" menu option.

In the upper portion of the toolbox you can use the icons there to set the colour of the fill of the trace and even select a 24-bit bitmap fill for the final traced image.

To trace the image, simply "rubber-band" the area to be traced, select the type of trace to be done (e.g. line-trace/ bezier curve trace) and set the sensitivity. This is done by changing the upper and lower limits in the CMYK values located in the lower portion of the toolbox. Where you are tracing fine lines in a greyscale image such as that in fig.12 I'd recommend that you set the lower limit of the "K" field at 55-65. I used this to trace an entire typeface and was able to get extremely accurate results. The same principle applies when scanning images in TIC format.

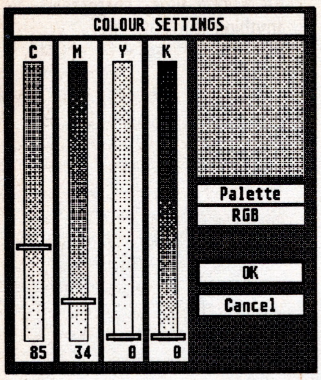
Once the vectorising process is finished, return to the Vector Graphic module to view the results. A word to the wise: before saving the resulting vector graphic, it is important to scale the image down to a reasonable size, otherwise you end up with an image that doesn't load properly into Didot and won't load at all into Calamus. Thereafter, simply export the graphic in either Didot's DIG format or Calamus' CVG format. There are other formats available but unfortunately no EPS (Encapsulated Postscript) option, which in my opinion is unfortunate as this would have increased the more general usefulness of the package.

On the whole, this is the most effective and user-friendly autotracer I've used. The options are relatively easy to get used to and the tracing process is fast and accurate.

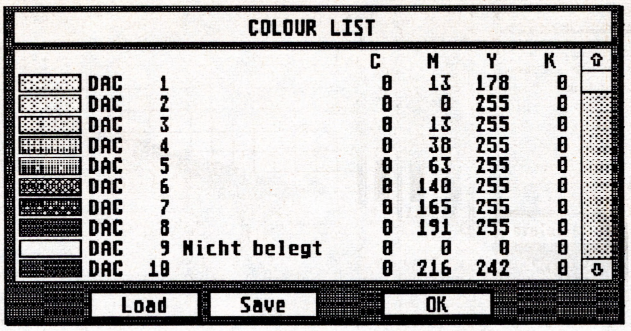
## Vector paths

The Vector Path module is fairly standard, and contains all of the tools and options necessary for vector "drawing". Readers familiar with Didot Professional will recognise all of the icons in this toolbox.

Having drawn the paths for your vector object or selected one of the objects from the path library, select the Vector Graphic module for further enhancement (fancy fills etc). Indeed, much can be accomplished by using and/or editing the primative objects stored in the Vector Path library, and

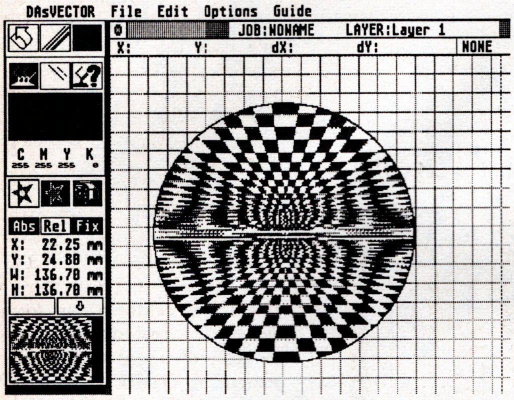


C 85 M 34 Y 0 K 0



COLOUR LIST

| | | C | M | Y | K |
|---|---|---|---|---|---|
| DAC | 1 | 0 | 13 | 178 | 0 |
| DAC | 2 | 0 | 0 | 255 | 0 |
| DAC | 3 | 0 | 13 | 255 | 0 |
| DAC | 4 | 0 | 38 | 255 | 0 |
| DAC | 5 | 0 | 63 | 255 | 0 |
| DAC | 6 | 0 | 140 | 255 | 0 |
| DAC | 7 | 0 | 165 | 255 | 0 |
| DAC | 8 | 0 | 191 | 255 | 0 |
| DAC | 9 Nicht belegt | 0 | 0 | 0 | 0 |
| DAC | 10 | 0 | 216 | 242 | 0 |



X: 22.25 mm
Y: 24.88 mm
W: 136.78 mm
H: 136.78 mm

Top left: (Fig.5) Colours can be selected by using the sliders shown, or entering values at the bottom. The colour created appears in the box at the top right of the dialogue box. It is also possible to switch between RGB and CMYK systems for generating colours.

Top right: (Fig.6) The colour palette accessed via the Colour Settings dialogue. Here you can select colours already preset simply by clicking on the colour you wish to use. Users can also save colours they mix, and add them to this list. Clicking on OK returns you to the Colour Settings menu to enable the colour chosen.

Above: (Fig.7) Bitmap fills. One of the most exiting features of the programme is its use of full 24-bit bitmap fills. These can be loaded by clicking on the box at the bottom of the toolbox. This causes the file selector to appear and its simply a matter of double clicking on the fill you wish to use. A thumbnail picture will appear in the box as in this screenshot. A range of fills is included with the package, but more can be added if you have access to a scanner or by converting images in the convertor utility into TIC/TIH/TIP formats. These fills can be used to fill ANY vector object.

Below left: (Fig.8) A variety of simple text effects are possible by using the scale and distort options located in the lower half of the Vector Graphic Editor toolbox. Select the tool you want to use and point, click and drag the text or object into shape.

Below right: (Fig.9) Like its stablemate, Didot Professional, DA's Vektor allows you to project text and vector objects onto bézier grids to create some really weird and wonderfull effects. There are a few grids available in the toolbox's library, but you can add more of your own.

the faint-hearted amongst you might be best advised to start there.

Having said that, readers who have experience of vector drawing will quickly get the hang of the tools and options on offer here.

## The graphic chart module

Moving on, we come to the Graphic Chart Module. This module allows you to create a range styles of graphs to represent your statistical data. These can be purely 2 dimensional bar charts or pie charts or, using the extruder built into this module, you can generate full 3-D charts and graphs (fig.13) in full 24-bit colour.

Also, you can leave the background blank, or you can use a True Colour or tinted greyscale image as a backdrop. It is even possible to use vector objects to make up the bars on a bar chart, e.g. using vector drawings of piles of tires to represent sales of tires over a set period of time.

Entering data can be done in two ways. First of all you have the option of entering data manually by selecting the appropriate icon in the module toolbox. It is here that you can also select the colours of each of the lines/pie segments/bars in your chart or graph. Secondly, DA's Vektor will also allow you to import data files from other packages in the SFD format. As you would expect, fonts, line weights and colours are all user definable for your chart and the module also allows the finished graphic to be scaled and rotated.

The finished graphic can then be exported as a vector object or 24-bit TIFF image for inclusion in your documents.

However, the possibilities don't end there. Remember that these modules interact. This means that your charts and graphs can be loaded into the final module in the package and animated, allowing you to create animated presentations.

Getting the best out of this module needs a bit of patience. I haven't found it to be as easy to get to grips with as other modules in the package. This is mainly due to the care required when entering data: hit the wrong key and you could lose all but the first row! Also you need to be on the lookout for the odd blank line inserted by the programme, as if by magic!

Despite these slight glitches, it outshines its rivals in the quality of the final output.

## Making movies

Last but by no means least, the Animation Module. I must confess I've only just begun to experiment with this module, but so far I've found it relatively straightforward to create simple vector animations using the vector objects available in the library when you first run the package.

Basically, the core of the animation module is a specialised clipboard whose icon resembles a film strip. Using this icon you record the key frames (ie the start and stop points) of your animation, leaving the programme to fill in the blanks.

Yes, that's right: painless, effortless "Tweening" for your vector animations. What's more, the layer menu is active so you can have as large a number of objects moving and changing shape as you want (memory permitting), each on its own layer. The manual likens this to the transparent cells used in traditional animation, which is a fairly good analogy.

There are some limits to what you can achieve. For instance, you cannot alter the fundamental structure of an object. For example the letter "T" is made up of straight lines, therefore you cannot get it to change into the letter "O" which is made up of curves. Also, changing 24-bit bitmap fills as part of the animation is not recomended. All attempts to do this, in my experience, have caused the programme to crash.

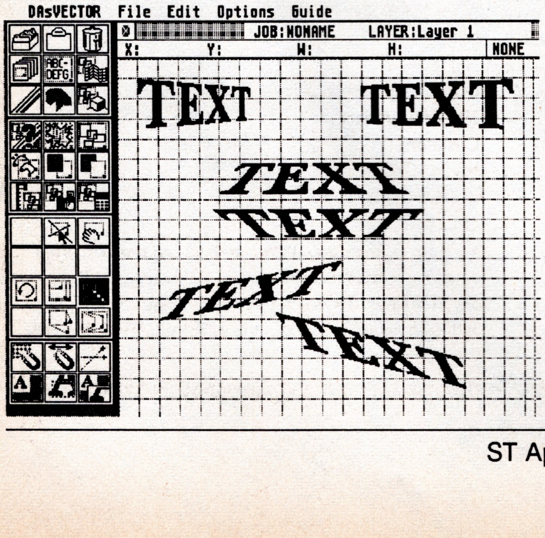
Recording animations can take a long time, particularily if the animation contains an object with a True Colour bitmap fill (a good time to go and put the kettle on!). When recording you can select the frame rate and, perhaps more importantly, the colour level: i.e. 16, 256, 32,000, 65,000 or 16.7 million colours, the idea being that you select the colour level appropriate to the system you intend to show the animation on.

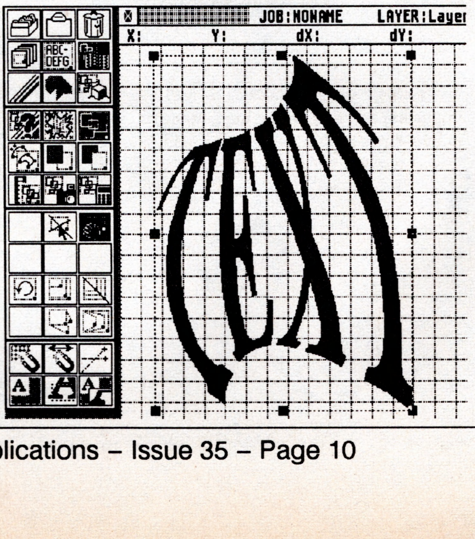
As stated earlier, a utility called DA's Player is included (accessed via the "SERVICES" option in the FILE menu). This utility is public domain and you are free to distribute it with any animations you create.

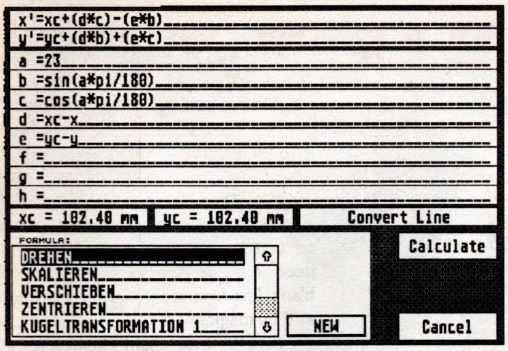
Again, to get the best out of this module requires patience, planning, and a lot of experimentation. There really is so much involved in this module, it almost merits a review of its own.

## Getting it on the page

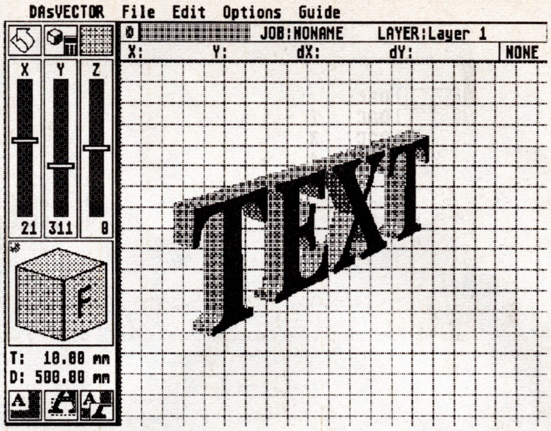
Obviously you'll want to make good use of all of this creative design. As is noted earlier, DA's Vektor is not intended to

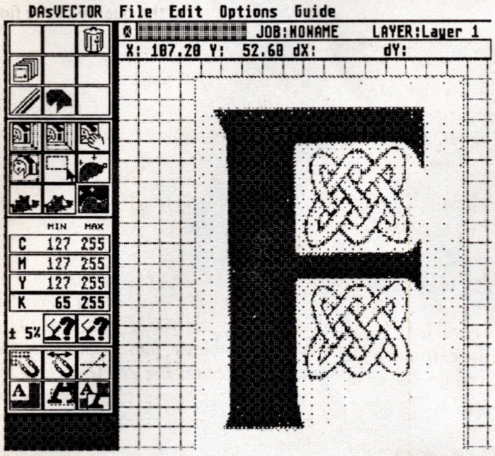


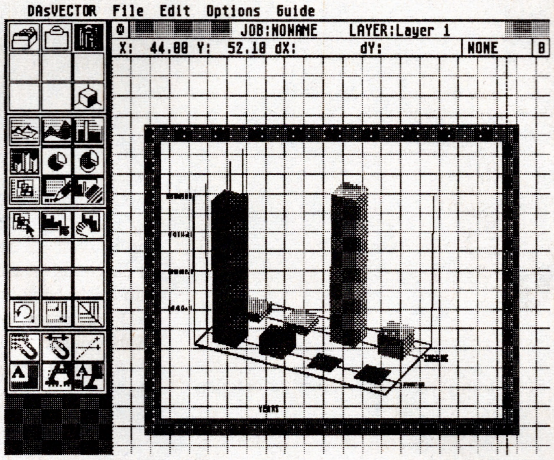




x'=xc+(d*c)-(e*b)
y'=yc+(d*b)+(e*c)
a =23
b =sin(a*pi/180)
c =cos(a*pi/180)
d =xc-x
e =yc-y
f =
g =
h =
xc = 102.40 mm
yc = 102.40 mm







Top left: (Fig.10) The calculator function will be immediately recognisable to anyone who has used O-Line Art by DMC. You can use this to project text etc onto 3-D shapes such as globes, cones, etc., by using the formulae supplied. As you can see, the names of these are in German, which makes it trial and error time unless you've got a good German-English dictionary. Instructions are included in the reference manual to enable the braver user to programme the calculator to create new effects.

Top right: (Fig.11) Creating the effect of 3-D text is an eay matter using the extruder function. Manipulating the sliders or entering new XYZ axis values changes the orientation of the text as shown by the animated cube in the lower half of the toolbox. A movable light source can also be positioned for best effect. Clicking on the calculate function fills the extruded area in a user defined colour. This easy-to-use function produces some nice effects, but not all PD fonts fill properly.

Above left: (Fig.12) The Vectorisor. This is one of the most effective and easy to use autotracing programmes I've used. Using greyscale and colour images as templates opens up a wealth of possiblities.

Above right: (Fig.13) Using the Graphic Chart Editor allows the creation of 3-D, full colour presentation graphics. Simply import or input the data and DA's Vektor does the rest for you.

be a DTP programme or independent art programme. Rather it is intended to complement such programmes.

Therefore there are a range of output options, accessed through the "PRINT" item on the "FILE" menu. Selecting this causes the Output Settings menu to be displayed. From here you can print out your work directly on your printer. This will depend on you having one of the following printers: a Canon CLC10, HP Laserjet, NEC P6/7 or an Atari Laser. This menu also allows you to print out your work in GEM image, TIFF, TIC and TIH file formats. These are usually the option used when saving work including bitmap fills. I was surprised and a bit disapointed that there was no driver for the HP Deskjet 500C, as this would have been useful for proofing the colour images. I can only assume this was an oversight and hope that it will be rectified in upgrades to the programme.

So, that covers proofing and saving bitmap images. What about vector graphics? Selecting "Export" under the "FILE" menu activates a pop-up menu which allows you to select from a number of vector graphic formats. Both the Didot vector graphic format and Calamus vector graphic (v.1) are supported. It is also possible to save graphics out in GEM metafile format and in HTV group format (which I hadn't come across before). As I've said earlier, the support of the EPS format in both import and export would have enabled you to interchange your graphics across a wider range of applications, as well as importing and editing the huge range of public domain vector clip art widely available. Another useful addition here, given its popularity in the PC world, would be support for the Coreldraw vector graphic format. We can only hope these formats will be supported in future upgrades to this package.

## Conclusion:

Lengthy though this review is, I really have only scratched the surface of this programme. I haven't had time to mention the multi-copy function or the time-space convertor which can be used to generate some really attractive effects. At its price, I'd definitely recommend it.

For my money, it's the most exciting programme to be released for the ST/TT for a long time. There really isn't anything currently on the market that can match the performance of this package. The possibilities offered by the range of functions on offer are limited only by your imagination, particularily in relation to the use of 24-bit fills.

I would have liked to see a greater range of graphics formats included, particularily the Encapsulated PostScript and CorelDraw vector formats to increase compatibility across different platforms. However, perhaps they will be added as the programme develops.

After you've mastered the basic techniques and learned how to navigate your way round the various menus and toolboxes, you can quickly produce some stunning results. A perfect companion to Didot Professional and Retouche Professional.

## Alternatives:

To match this specification, none - although the promise of a 24-bit colour version of Arabesque might give DA's Vektor a run for its money. The nearest comparison I can think of in relation to this programme is CorelDraw on the PC (approx. £299) which DA's Vektor out-performs, in terms of speed. However, CorelDraw does have some basic DTP abilities which DA's Vektor lacks (though DA's Vektor is not intended to compete with DTP programmes).

## Summary

**Points For:**

- ✓ Overall range of functions available
- ✓ Ease of Use
- ✓ 24-bit bitmap fills
- ✓ Speed (despite working in True Colour)

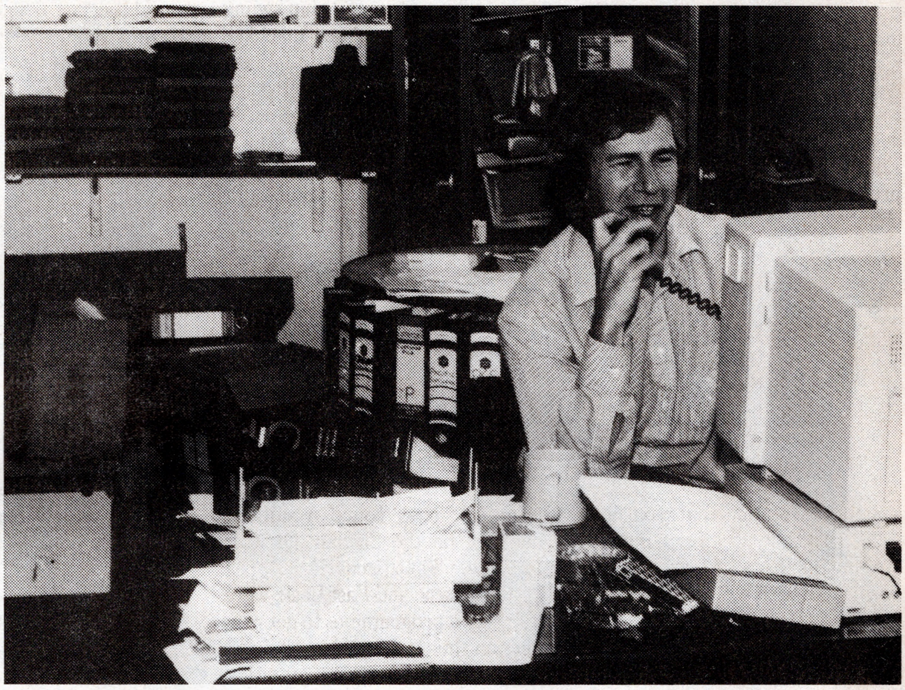
**Points Against:**

- ✗ No colour DeskJet driver
- ✗ No EPS support

Product Name:............ DA's VEKTOR
Version Number:........ 1.04
Publisher:...................... Digital Arts
Distributer:.................. CGS Computerbild
19 Ledbury Place
Croydon
Surrey CR0 1ET
Tel:.................................. 081 686 8121
Price:..............................£149 (inc. VAT)
Manifest:........................ 82-page ring-bound starter manual (reference manual on disk); 4 double-sided disks
System:.......................... ST/TT/Falcon 030 with minimum screen resolution of 640*400; Hard Disk, and 1MB RAM minimum (though I'd recommend at least 2Mb).

# COMPANY PROFILE HiSoft

*Hot on the heels of Tony Kaye, Dave Howell starts a new series of profiles of companies that still have a high degree of involvement with the ST. The first company he visited was HiSoft, where he interviewed one of its founder members, David Link.*



David Link hard at work at Hisoft, sitting at his Apple Mac.

*HiSoft have over the past few years carved a niche in the Atari market that is second to none. Of all of the companies that currently supply Atari users HiSoft above all others has gained a reputation for bringing us professional quality software. The following is a profiile cum interview with some of the people that go up to make HiSoft, their background and where they see HiSoft and the Atari market going over the next few years.*

### *Beginnings*

I have the perception that many Atari users have that HiSoft is much larger than they actually are. They have taken over an old school as their address indicates and have centralised their whole operation in this one building, making them very self sufficient.

I was greeted at HiSoft by its head honcho David Link. Mr link has a very confident air about him, a man who is in his element and talks with great authority about his subject. He began by giving me a guided tour of the old school.

Tony Racine. He is primarily responsible for the day - to - day running of the AVR operation since it moved to HiSoft, writing manuals and dealing with enquiries.

They have organised everything so that they are totally self sufficient, being able to write the software, duplicate the disks and package the orders all under one roof. Mr Link then gave me some background of HiSoft's beginnings.

HiSoft was started in 1979. David was at Highgate School teaching 'A' Level maths at the time. One of his sixth form students was Dave Nutkins who would later come back to HiSoft to work full time.

At that time there was nothing like a hobbyist computer market in the UK until the Nascom 1 arrived, the first board computer and in kit form with a tiny 1K of memory. David snapped it up. Both he and Nutkins sat around for a while thinking of what could be done with this new machine. They decided that a computer language would be a good starting point, and so David produced an assembler while Dave Nutkins worked on a Pascal compiler.

At the time anyone who was into computing had their attention focused on the Tottenham Court Road in London and in particular Henry's Radio, as they were the largest supplier of the Nascom 1 and later the Nascom 2 computers. They sold a few copies of their programmes, enough in fact to convince them that they had a commercial proposition.

They returned to their school and sat around trying to think of a name for the company. One student suggested Highgate School Software. David didn't like the sound of that much so they shortened it to HiSoft.

Their first proper advert was placed in Personal Computer World's Micro Mart column in

Dave Nutkins sitting at his Falcon. One of the founding fathers of HiSoft. Initially working on the original Devpac when he was still at school, and now programming the latest range of HiSoft programmes for the Falcon.

1980. This was for their Pascal compiler and assembler, which wasn't known as Devpac then. They enjoyed very small sales at that time, both working from home. Even though the quality of the presentation wasn't very professional - they wrote the manuals on a Boots typewriter! - they sold some units and began to build a reputation for quality software.

In 1982 the Spectrum was released. This was yet another Z80-based machine. All of HiSoft's programmes were written for this chip and were therefore very fast indeed. It was logical for them to move into programming for the Spectrum and this is when their languages became know for the first time as Devpac.

This was really when sales began to take off. As David points out, the market was very different then. It was very easy to sell software without the professional presentation that you need today. Then it was very much a cottage industry. Their manuals were photocopied and the programmes came on cassette.

The success of the Spectrum software gave HiSoft enough cash to move into premises in Dunstable in 1984. Also at this time David took on a partner. Nutkins was studying at Cambridge University.

Around this time the majority of their work consisted of Devpac conversions. There were a lot of Z80 machines released between 1982 and 1984. Does anyone remember the Memotech, NewBrain, the MSX machines and the Enterprise Elan? David also told me that he thought that if these machines were released today they could well make a lasting impact on the market. The companies that produced them back in the early '80's were simply underfunded and went bust very quickly.

By 1984 they had a good range of software in their catalogue. They had Devpac and Pascal and also a version of 'C' written by David's partner. They also had a few good utilities.

They were at a crossroads. They were hearing that the Z80 had had its day and that the Spectrum was dead. In fact, it has only recently stopped production since Amstrad began to sell the machine.

The PC was making headway in the market but a move to PC software would mean a rewrite of their software, a long process. Also they would be up against larger software companies such as MicroSoft and Borland who both had similar programming packages available.

Luckily, the games console manufacturer Atari had just released the first of their micro computers based on the 68000 chip. The fact that the 68000 chip was similar to the Z80 chip swung them towards the Atari machine. They looked closely at this new machine. The 68000 was a new and powerful chip. They liked TOS and the way that the GUI had been implemented. So, luckily for us, HiSoft chose the Atari computer as the platform to develop their software on.

But what to do on the machine first? David concluded that a Basic was first and foremost and so they looked around for a similar software package that they could convert for use on the new Atari machine. David had originally thought to write a new one but time constraints made that impractical. They found a suitable package on the Sinclair QL (the first true 68000 machine).

GFA Basic and Fast Basic were very hard programmes to get running on the Atari, David told me. Looking back, David believes that it would have saved them a great deal of time if they had done an interpreter with a compiler added on.

About this time they also continued work on a few of their other products, WERCS and KNIFE. They were however looking for a version of 'C' that they could port over to the Atari. Lattice C was already supported. But the company that had the package suddenly backed out of the UK market. HiSoft stepped into the gap that they left. David contacted the parent company in the USA about doing the conversion. They managed to get hold of version five of the programme which was written for the Amiga. They ported this over and this is what finally became the well known Lattice 'C' on the Atari.

These programming languages provided HiSoft with a foundation on which to build. They understand languages as both Dave Nutkins and Alex Kiernan are computer scientists and have a very detailed knowledge of how languages are put together. Alex's specialty is 'C' where as Dave Nutkins works with Pascal. This knowledge gave them a chance to do something that no other company was doing - selling powerful programming languages to the general public and not just to developers.

About two years later David looked at the market that HiSoft were operating in and decided that he could consolidate the company as the computer market had settled down. Atari were not producing any new machines, but nor was anyone else for that matter. He could see that Atari machines had a stable market share and would sell steadily for the next few years.

As David pointed out to me, *"We like the ST far more than the Amiga as it is an easier machine to programme. I just think it's a much more user friendly machine... The Amiga is a good games machine but as a general purpose machine it just lacks something, it's overburdened with features. The new Workbench 3 is very nice but still a pig to work with. TOS may have its faults but it has a beauty and simplicity."*

As he had stated earlier, they had decided that the Atari machine was the one to concentrate on so they began to consolidate their position by bringing in new packages. These took the form of the Kuma series and the 'K' series of software. They also had to decide if it was possible to develop these products. HiSoft are the only company left in the UK ST market who still do in - house development work having three programmers in house and two working outside for them.

HiSoft will not simply take on a product as is but will work with the programmer to get the package just right. As David told me

*"We'll always look very seriously at a package that is GEM legal, and if there has obviously been energy put into the user interface. The user interface is the most crucial feature of any programme. Features can always be added later.*

*"If you badly design the user interface from the start you'll never get it right because it needs a whole new re-write of the package. If you miss out a few features - obviously depending on what type of features you miss out - you can normally add those later, say if you missed out a spell checker, but if you mis-design the user interface you are lost from the start."*

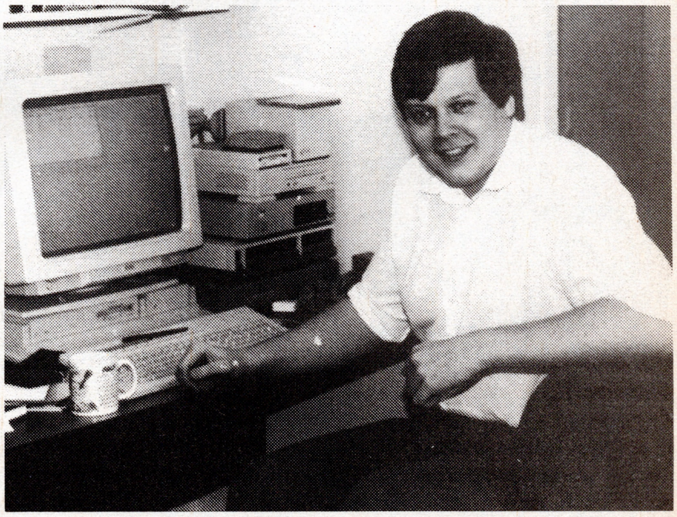
This is an ideal situation but HiSoft do have to make compromises. They will take on a product that doesn't quite fit their guidelines because they see a market for that product. They are here after all to make a profit so that they can continue to bring the user more products in the future.

I asked David about the all important user interface again and what his thoughts were regarding the trend to have the user interface driven by icons. A great deal of software is like this with the king being Calamus SL with over 500 icons in its interface.

*"Icons can inform the user if used carefully. A forest confuses the user. Icons need to be used sparingly and very intelligently to be useful. Generally menus work very well - assuming you have keyboard shortcuts so you can get at them quickly. Menus are a self-help system."*

HiSoft do have some guidelines that they follow when looking for software that will grace their ever-expanding catalogue. Most, however, have been published previously. This makes it very difficult to make any radical changes. So they look for software that has got it just about right to begin with.

TruePaint and TrueImage are



Alex Kiernan. At the moment working on the latest version of Superbase but also responsible for many of HiSofts best selling products.

exceptions as they are developing these themselves and so will end up with just the package they want. There are exceptions to this: Diamond Back is a good example. Since taking on the package they have been talking to the programmer and there will be a Diamond Back 2 soon that will have a better interface.

### Falcon

We then moved on and I asked what his thoughts were about the Falcon:

*"The Falcon is a completely new design of machine. It is not an ST, even though at the moment it is packaged in a 1040 case. It is a completely new design and a design of the '90's which will do a very good job as a multi-media machine. It concentrates on the right type of interfaces such as the SCSI 2, and of course the MIDI interface because of its music background, the DSP which is a very important factor in sound and image manipulation, and having it altogether on the BUS.*

*"No other machine has that integration at the moment. Yes, you can hang DSP's onto Amigas or PC's and yes you can hang SCSI 2 onto Amigas and PC's and also MIDI. But no machine has it all there and all into the BUS, that's the point. You can hang all of these onto these machines but it is onto the existing system BUS which wasn't designed to cope with this information."*

I then asked him if he thought the machine would do well. "The Falcon is a great machine and deserves to do well. It will do well in the music and video market. Whether it does well in the classic ST market, i.e. the consumer end of the market, the home market, depends on pricing and packaging.

*"To us it isn't relevant, the machine is exciting enough to sell enough volume into the music and video market for us to be happy with the machine. I believe that will support a business."*

HiSoft with the arrival of the Falcon, see themselves moving into an new era in their development. They will be putting together packages that take full advantage of the Falcon's capabilities.

*"Everyone has been talking about multi-media for years and what multi-media is. The Falcon though is the first machine to tie into one package the possibility of fast moving graphics, fast moving still and video images and sound all at the same time.*

*"Which means it is going to be of great interest for experimentaion in video studios, for photographers and for music studios as well as live musicians. The possibilities for those types of markets are virtually endless.*

*"In addition the Falcon is going to need general purpose applications such as word processors and spreadsheets and databases. Because those people in the studios who have used their machine may well want to incorporate their products into their spreadsheets and databases and so on. And so we are concentrating on multi-media spreadsheets and multi-media databases, etc."*

HiSoft have now taken over AVR who have expertise in the field of audio/visual products. This is the next logical step for them to take. David went on to say: "We are taking a lot on board, we do believe in the Falcon, we do think it is a great machine. We are supporting it as hard as we can. And we don't need a massive consumer market to make it work."

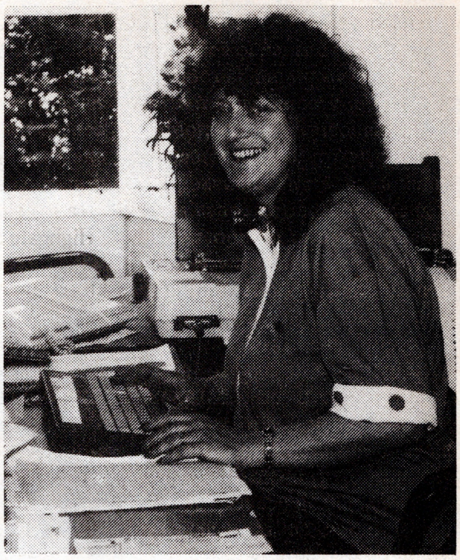
One question that I wanted to ask HiSoft were their thoughts about Atari itself. We have heard it in the Atari press for years and years regarding Atari's seeming lack of enthusiasm regarding their products from a marketing point of view. I asked David if he shared these views that Atari are some what complacent.

*"I have always felt about Atari, and generally about computer manufacturers, that their business is to produce computers to a price which they can make a profit from. They obviously from a marketing point of view need to target an audience. I don't believe it's their remit to necessarily create markets for other people. It is up to other people to create their own markets.*

*"This has always been my argument with the ST. Everyone moaned that the ST was never marketed by Atari as a serious computer. So how could you sell a word processor for it? My argument was, I don't care I know how many Atari are selling, I don't care where they are selling them. I know that eventually some of the users will get fed up with playing games and want to use their machines for something else. I will decide if there is a market, that's my job.*

*"It is the same with the Falcon. As long as Atari make a reasonable volume, and I know what that volume is I will then judge if I can sell to that volume or not. If I can I will go and make a business out of it.*

*"There is no doubt that if you take a PC package, for instance, and you get people to want that package, you can make a great deal of money. You can sell 100,000, 200,000 units very quickly.*



Julia Saville: Office Manager. She is one of the voices you will hear when you telephone HiSoft and she keeps the office running smoothly.

*"There are at least two down sides to this. Firstly to make people want it in the first place and to make it stand out from all of the other packages, this costs money. It cost money in terms of PR or getting on television or whatever, getting it talked about by the press. There are various little tricks you can do but most of them cost money.*

*"The second problem is that actually once you have done it you are likely to have copy-cat products coming after you at half the price or a third of your price. So your margins become very tight. You have got to compete on price as this is a price-sensitive market.*

*"In our market it is a smaller volume and there are fewer users. They will be prepared to pay a little extra for our software. You can therefore survive in a small market as long as you are big in that market, it is a small fish in a big pond or a big fish in a small pond. You can survive in both but it depends where you feel comfortable. We feel comfortable being big in a small pond. Though I say big, we are not a big company, we never want to be big, but we are perceived as being larger than we are because of the service that we offer and the advertising that we put out."*

### Future

David then continued our chat with his ideas for the future of HiSoft and where they will be concentrating.

*"We are looking at the Falcon for new development. There are going to be no new ST's. The new move forward is the Falcon. Our concentration for new hardware and software will certainly be towards the Falcon.*

*"If it is possible to maintain backward compatibility without loosing features of course we will. I think also that we will get a lot of people moving across from their ST's to the Falcon. For instance with Video Maker we will try and do a new version that works on the ST as well the Falcon. But we may well have two products.*

*"The development of existing ST software is not at an end, though a lot of is has got to a point where it doesn't need much more development. Certainly the languages don't need much more development except, of course, to make them run on the Falcon. We are, in fact, due to release a new version of Devpac and Lattice for the Falcon in the next couple of weeks.*

*"The Falcon is a radically different design. It benefits from Atari having built ST's, etc. But it is radically different, and makes Atari effectively a start-up company again. Atari have honed down to produce it, Atari are smaller word-wide, probably as small as they were in '84 when the ST was launched. And that is interesting because it gives them a chance to go forward and really make something out of the Falcon."*

I also talked briefly to two other members of the HiSoft team.

Alex Kiernan is a member of HiSoft's technical staff. He is responsible for the updating of the languages that they have and also for programming the file formats and conversion facilities for Truepaint. At the present time he is occupied with the port of Superbase 4 from the Amiga. He has also had a hand to varying degrees in the development of many of HiSoft's other products.

He is one of the few people that can pick up the phone and talk to the development teams at Atari itself. He has been in contact with the TOS team and talked in great detail about programming in general with them.

I asked him what he thought of Multi-TOS and he was of the opinion that Atari did have a winner on their hands. He suspected that many users however will not - from the start at least - use it to its full potential. It will only be when other software comes along that the new TOS will be used fully. Many users will simply use it as a programme switcher which, as Alex said:

*"Is like trying to use a sledgehammer to crack a nut!"*

He talks, as do all of the people that I talked to, with great enthusiasm about his subject. I asked him if there was anything that he had done that he didn't particularly like. He responded by saying, "The SuperBase port is a classic software port which is more tedious than difficult."

Lastly I talked all too briefly with Dave Nutkins. He was one of the founder members of the HiSoft team being in the sixth form at Highgate School when David Link was teaching mathematics. After he completed his studies at Cambridge doing a year in mathematics and then switching to computer science he returned to work full time for HiSoft.

He is primarily responsible for Pascal and Devpac and was working at his TT on debugging the Basic for the Falcon when I was there. Nutkins is a very relaxed and confident person who is instantly spottable in a crowded room as a computer programmer!

I asked him if it was a difficult task porting software from one machine to another? He told me that the port for the Falcon for instance isn't all that difficult as it really is just a case of extending the software to take advantage of the machine's new features.

He above all of the other members of the team is conscious about maintaining wherever possible backward compatibility. Lastly I asked him if he ever got any feedback from his audience but at his level. As a programmer he can see a piece of software with more depth than the user can as he has an idea of what went into that particular title. I wondered if users ever contacted him regarding programming problems. He told me:

*"It varies; they go from professional developers to typical ST Applications readers who are very knowledgable and will say sensible things."*

Hisoft have a bright future especially now that the Falcon is beginning to arrive in numbers, if very slowly. They are continuing to work on SuperBase 4, which looks set to become the defacto database, and build on the success of previous versions. They also have a new word processor in the pipeline. I had read about Papyrus in one of the German ST magazines and look forward to seeing that when it arrives towards the end of the year. I would like to thank all the people that have made HiSoft what it is today and I would hope to be able to interview them again in the future - which looks very rosy indeed.

*HiSoft are:*

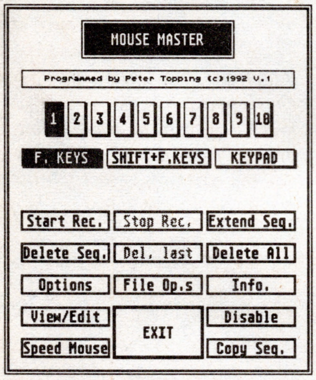
*David Link* - Owner

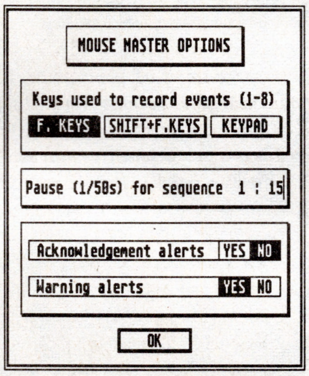
**Office Staff:**
*Julia Saville* - Office Manager
*Marlynne Braunston*
*Glynis Hughes*
*Sallie Nutkins*

**Technical Staff:**
*Alex Kiernan*
*Dave Nutkins*
*Tony Racine (AVR)*
*Dave Woodhouse (AVR)*

**Technical Support:**
*Richard Kiernan*

Mouse Master


MOUSE MASTER
Programmed by Peter Topping (c) 1992 V.1
1 2 3 4 5 6 7 8 9 10
F. KEYS
SHIFT+F.KEYS
KEYPAD
Start Rec.
Stop Rec.
Extend Seq.
Delete Seq.
Del. last
Delete All
Options
File Op.s
Info.
View/Edit
EXIT
Disable
Speed Mouse
Copy Seq.


MOUSE MASTER OPTIONS
Keys used to record events (1-8)
F. KEYS
SHIFT+F.KEYS
KEYPAD
Pause (1/50s) for sequence 1 : 15
Acknowledgement alerts YES NO
Warning alerts YES NO
OK

**Mouse Master** allows mouse operations and commands to be recorded in the computer's memory and replayed at the touch of a key just as if you were moving the mouse. This overcomes the need to break your train of thought by stopping what you're doing and laboriously making the mouse commands which you use often. Ten different sequences of mouse instructions can be held in memory at the same time - each containing up to 100 commands, or 'events' such as clicking, double clicking and dragging.

Mouse Master can be used with any program which uses the mouse, though most of the package's facilities are available from a Desk Accessory, so it is best used with GEM based programs or the desktop.

£9.95

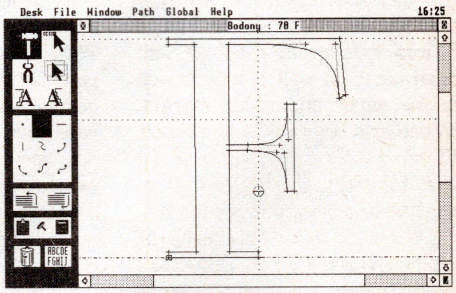
The ST Club
2 Broadway
Nottingham
NG1 1PS
Phone (0602) 410241

Comprehensive printed manual

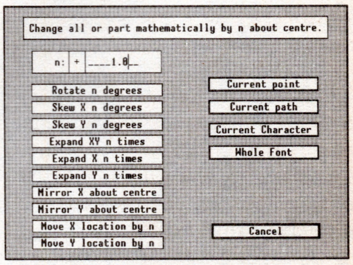
Fonty

Calamus Font Editor

This is a fully featured editing program for creating and editing Calamus CFN-format font files. Also, when used in conjunction with C-Font or Fontkit Plus, CFN files created with Fonty can be used to generate sets of bit-mapped fonts for use in packages such as: K-Spread4, Degas Elite, Timeworks DTP, Calligrapher, That's Write, Redacteur 3, and Wordflair.


Desk File Window Path Global Help
16:25
Bodony : 78 F

Fonty features include: draw mode icons (Hammer mode, Pliers mode, Move mode, Select path mode, left and right kern mode), Grids and Guide Lines, Manual and Automatic kerning, Backgrounds for tracing (a Degas picture or a complete GEM font), a full feature Calculator to mathamatically manipulate fonts, and Window scaling. A separate program, PFB2CFN, reads a Postscript Type 1 Font file and copies it into a Calamus CFN font file.


Change all or part mathematically by n about centre.
n: + 1.0
Rotate n degrees
Skew X n degrees
Skew Y n degrees
Expand XY n times
Expand X n times
Expand Y n times
Mirror X about centre
Mirror Y about centre
Move X location by n
Move Y location by n
Current point
Current path
Current Character
Whole Font
Cancel

£11.95

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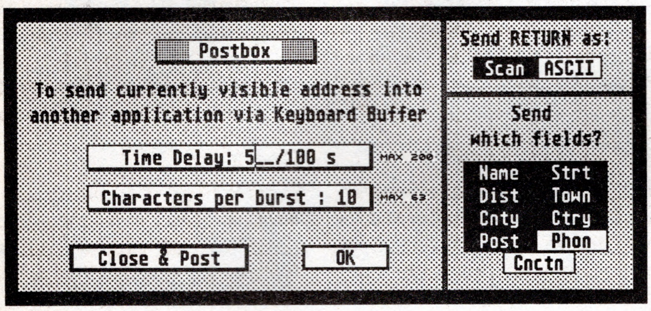
# Address v1.6

## Dedicated Address and Telephone Book

Full GEM-based address book program with fully configurable label printing, telephone lists, and envelope printing options. Good search and sort facilities. Comes with Address.Acc - which gives window-based access to the database when in other GEM programs. ACC will time telephone calls, send addresses directly into wordprocessor documents, has definable printer macro buttons, and lots more.


Postbox
Send RETURN as:
Scan
ASCII
Send which fields?
Name
Strt
Dist
Town
Cnty
Ctry
Post
Phon
Cnctn
Close & Post
OK

To send currently visible address into another application via Keyboard Buffer

Time Delay: 5__/100 s MAX 200

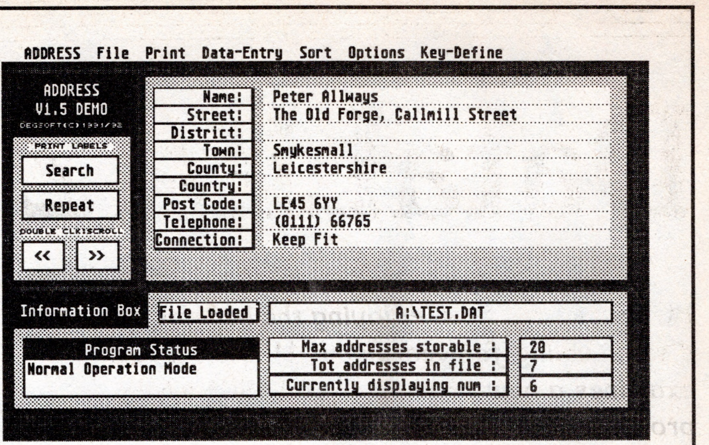
Characters per burst : 10 MAX 63

degsoft software

Price, complete with two printed manuals:

**£12.95**

**The ST Club**
2 Broadway
Nottingham
NG1 1PS


ADDRESS File Print Data-Entry Sort Options Key-Define
ADDRESS V1.5 DEMO
DEGSOFT(C)1991/92
PRINT LABELS
Search
Repeat
DOUBLE CLK:SCROLL
<<
>>
Information Box

Name: Peter Allways
Street: The Old Forge, Callmill Street
District:
Town: Smykesmall
County: Leicestershire
Country:
Post Code: LE45 6YY
Telephone: (0111) 66765
Connection: Keep Fit

File Loaded: A:\TEST.DAT

Program Status: Normal Operation Mode

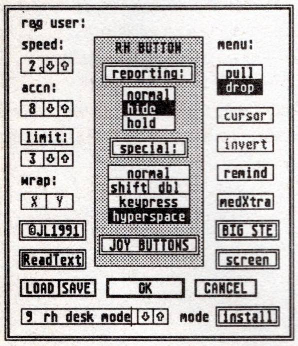
Max addresses storable : 20
Tot addresses in file : 7
Currently displaying num : 6

### Features:

- Store as many addresses in the file as your disk/memory will allow and have as many different files as you wish.
- Easily update, delete or add new addresses.
- Sort the address book by a two-field sort system to put the addresses into any specific order required.
- Use the Function keys as preset keywords, such as commonly used town name to speed up ADDRESS entry.
- Auto load an address file when the program is loaded.
- Print out addresses onto envelopes.
- Print out on labels - 1, 2, or 3 across the web. Label layout is fully configurable. You choose which addresses to print by using the Search feature.
- Produce a telephone list.
- Dial telephone numbers with a modem.
- Keyboard short cuts for most menu options, making the program a breeze to use.
- With the accessory you can call up an address whilst in any other GEM application (eg. to print out addresses or telephone someone).
- In the accessory you can use the in built timer to time a telephone call and keep a running total of call charges.
- In the accessory you have the printer macro buttons - 12 programmable buttons you can define to select different features on your printer. You are not limited to just Epson printers.
- 'Flying Default' feature in the accessory means that the Return key changes its use according to what is the most likely next choice.

---

# Mouse Tricks 2


reg user:
speed:
2
accn:
8
limit:
3
wrap:
X Y
©JL1991
ReadText
RH BUTTON
reporting:
normal
hide
hold
special:
normal
shift dbl
keypress
hyperspace
JOY BUTTONS
menu:
pull drop
cursor
invert
remind
medXtra
BIG STE
screen
LOAD SAVE
OK
CANCEL
9 rh desk mode
mode
install

- Mouse Tricks combines many of the functions of existing mouse utilities in a single desk accessory and adds numerous extra functions of its own.
- Mouse Tricks can set up suitable modes of mouse behaviour for particular programs. An optional screen saver is also included.
- Mouse speed can be reduced as well as increased. This allows a cross-hair mouse add-on such as "Tracey" to trace artwork of any size.
- All the functions of Mouse Tricks can be adjusted through a set of easy to follow dialog boxes.
- As many as 20 different settings can be named and saved, and each mode can be selected via a dialog or a user selected keycode.
- Mouse Tricks keeps a list of up to 40 different programs; for each program on the list you can specify both the mode you wish to be installed when a program is run, and the maximum amount of memory initially available to that program.
- Mouse Tricks contains a text reading utility, Read Text, with which you can load, read and switch between as many as eight text files from within any program that allows access to desk accessories.
- Read Text can also be invoked by double-clicking on the desktop icon of the file you want to read, or by pressing a user defined keycode.
- Big STE is a virtual screen utility that uses the STE's video display hardware to provide instantaneous smooth scrolling around virtual large screens of any (feasible) dimensions, with the option of an interlaced display for any screens with double (or greater) the normal screen height.
- Tutorial function to help you learn to use Mouse Tricks.

just **£9.95**

**The ST Club**
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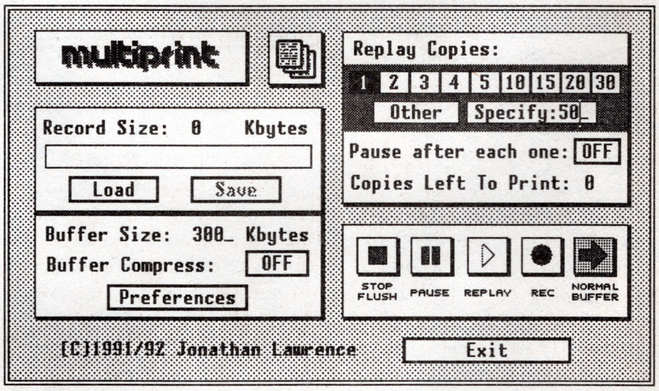
Comprehensive 70-page ring-bound manual supplied.

---

# Multiprint


multiprint
Replay Copies:
1
2
3
4
5
10
15
20
30
Other
Load
Save
Preferences
STOP FLUSH
PAUSE
REPLAY
REC
NORMAL BUFFER
Exit

Record Size: 0 Kbytes

Buffer Size: 300_ Kbytes

Buffer Compress: OFF

Specify:50_

Pause after each one: OFF

Copies Left To Print: 0

[C]1991/92 Jonathan Lawrence

Multiprint is an intelligent printer buffer that records data sent to your printer via the parallel port or serial port. Multiprint is controlled by an intuitive dialog box with VCR style buttons. Features iclude:

Replay of recorded data for high speed multi-copy printing of letterheads or leaflets.

Saving of data to printer file (*.PRN or compressed *.PCN) and loading of buffer with previously created printer file - for quick'n'easy reprinting at a later date. No need to rerun your DTP or art program.

Option for compressed buffer and printer files for minimum demands on memory and disk space. Average 300 dpi DTP data compressed to 40% of its original size.

Load and print printer files produced by other programs - and compress them to Multiprint's own PCN format for better use of disk space.

Background printing with "Priority Delay" allows you to share a chosen percentage of your computer's time with Multiprint.

**£9.95**

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***Comprehensive printed manual***

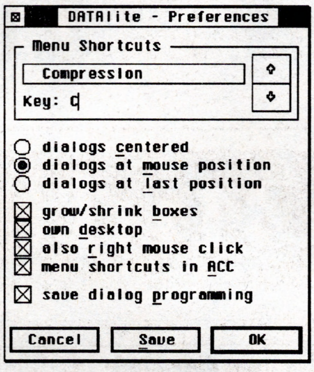
# DataLite 2

*PC users have been enjoying the benefits of disk-doubling for years now. Michael Baxter examines a new product from HiSoft which promises to provide the same facilities for users of Atari machines. It's cheaper, too...*

How do you fancy doubling your hard disk's capacity for £50? Hmm... sounds a bit dubious doesn't it? After all, the price difference between a 80Mb hard disk and a 160Mb one is substantially more than fifty smackers, so what could bridge the gap for such a comparatively small outlay? Well, remove any mental images of Del-Boy from your mind, because a no lesser organisation than HiSoft are making this claim, and when the most respected Atari software house (bar none) come out with patter like that, you have to sit up and take notice. The piece of kit in question is called Datalite 2, and it represents the Atari incarnation of the highly successful range of PC-based disk doubling packages. In fact, considering the usefulness and appeal of such utilities, I'm surprised it has taken so long for an Atari version to appear. Nevertheless, the wait is over, and Datalite 2 represents the first attempt at disk-doubling on the Atari platform. How far will it go in emulating the success of equivalent PC products? How efficient is it? Is it invisible to the user, as it should be? And most importantly, how reliable is it? All these questions (and more) are answered in the following pages...

## Disk Doubling

Disk Doubling is a widespread practice on the PC platform. Early incarnations were hardware-based, manifested in the form of plug-in ISA expansion cards which took the processing overheads away from struggling 8086 and 80286 processors. The arrival of more powerful 386 and 486 processors saw these packages move away from expensive hardware solutions, and the latest versions of leading PC disk-doublers such as SuperStor and Stacker are entirely software oriented. These packages currently weigh in at around the £100 mark, but can be extremely cost-effective, depending on the capacity of the hard drive they are installed on – the bigger the capacity, the greater the saving. For example, a 170Mb IDE Conner HD under SuperStor control – total cost of which at the time of writing is approximately £295 inc VAT – provides a minimum of 340Mb storage area, potentially far more depending on the data being stored: a true 360mb unit from the same company costs a cool £560; it doesn't take a genius to work out why this system has become so popular. In fact, the whole concept of disk doubling has been given a whopping seal of approval from no less an entity than Microsoft, with the release of MS-DOS 6 which has real-time data compression/decompression routines built in as standard. These routines are actually hacked and modified sections of Stac's code (the makers of Stacker), or MicroSoft's own efforts, depending on who you believe. In fact, the two companies are currently locked in a protracted legal battle over copyright, and such is the market for such software that each side looks set to fight on to the bitter end. Anyway, that's another story altogether, but it highlights the impact that this kind of utility has had on the PC market. We can only hope that HiSoft can go some way to emulating this on the Atari, but without the legal wrangles....



Compression

Key: C

○ dialogs centered
● dialogs at mouse position
○ dialogs at last position

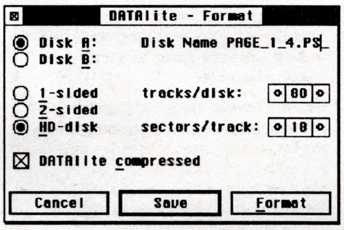
☒ grow/shrink boxes
☒ own desktop
☒ also right mouse click
☒ menu shortcuts in ACC

☒ save dialog programming

The preferences menu allows you to customise the Datalite interface. Also, in keeping with new MultiTOS conventions, any non-critical alert messages are displayed as non-modal alerts which behave like normal GEM windows which can be moved around the screen, allowing you to perform other functions before responding to the message.

## How does it work?

The Datalite system effectively sits between the computer and the hard disk as a BIOS device driver, intercepting all read/write operations, decompressing and compressing data on the fly. You can think of it as real-time archiving/de-archiving process, but one which works with all of the data on your selected hard disk partitions, whether it be an executable file run from the desktop, or a PostScript font being loaded into PageStream. Moreover, it does this automatically with absolutely no interaction from the user. But the burning question that anyone who has ever used slow PD archiving software will ask is whether the system is quick enough to make it bearable during everyday use, and given that all compressed and un-interpreted data on the hard disk will be complete garbage to a standard Atari, that it won't compromise data integrity for speed (or any other reason, come to that). In effect, does Datalite emulate SuperStor and Stacker in all but name?

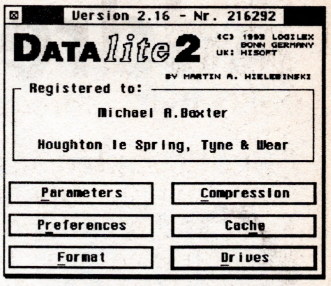


● Disk A: Disk Name PAGE_1_4.PS
○ Disk B:

○ 1-sided tracks/disk: 80
○ 2-sided
● HD-disk sectors/track: 18

☒ DATAlite compressed

Datalite incorporates standard disk formatting facilities, as well as the option to create compressed format disks.



Version 2.16 - Nr. 216292

Registered to:

Michael A.Baxter

Houghton le Spring, Tyne & Wear

## Installation

Datalite can only be installed via a customised installation program, which takes your registration details and then creates a working disk. It then copies essential files across to the media of your choice, be it floppy disk, hard disk, or removable hard disk. Hit the reset button, and away you go.

## Operation

Datalite hooks into the system at boot-time via a small auto-folder program, and control over the system can be gained via a main configuration application or a desk accessory. The first decision you'll need to make is which existing disks or partitions you want to compress. It would be very easy to get carried away and compress every partition and floppy disk in sight, but there are two major reasons why this would provoke emotions of intense sadness:

1: Compressing your boot partition could well lock you out of your hard disk next time you boot up – compressed media cannot be accessed until Datalite has been installed, so compressing Datalite itself isn't a particularly smart move.

2: Depending on your system, you may find that some aspects of Datalite's operation are just too slow to bear, necessitating a return to uncompressed media for some operations. You'll then discover that you can't decompress whole partitions without trashing all the data on it.

Compress in haste, repent at leisure, basically. HiSoft stress the importance of reading the whole manual before you install Datalite and this – for once – is sound advice. The manual goes to great length to explain the pro's and con's of the Datalite system, and gives you the information you need to decide which partitions to compress based on your own specific requirements: some users will opt for maximum storage area regardless of performance penalties, whereas others will want to retain maximum speed as much as

| Datalite 2.14 Hard Disk Performance | 68000 8Mhz | | 68000 16Mhz | |
|---|---|---|---|---|
| | Std. | Comp | Std. | Comp |
| Load Calamus (417k) | 4.5 | 8.4 | 3.0 | 5.1 |
| Load Protext system v5.52 (400k) | 3.2 | 6.8 | 2.4 | 4.1 |
| Spell Check 3000 word file, dictionary on hard disk | 33.5 | 112 | 21 | 66 |

| Copy 2Mb file from partition to partition | 68000 8Mhz | 68000 16Mhz |
|---|---|---|
| ■ Uncompressed to Uncompressed | 12.5 | 9.5 |
| ■ Uncompressed to Compressed | 101 | 55.1 |
| ■ Compressed to Uncompressed | 13.5 | 11.2 |
| ■ Compressed to Compressed | 106.5 | 55.1 |

***All timings in seconds. Test results obtained on a mono Atari Mega STE-4 (8/16Mhz), TOS 2.06, AHDI 3.01, 2 Megafile 30 hard disks. 2Mb file is PostScript code created by PageStream 2.2. Compression method set to Optimum.***

possible. It's owners of 68000 based Atari's who will have the toughest decisions to make, since it's these machines that suffer most under the system's processing overheads. TT and Falcon owners have less to worry about, since the more efficient 68030 processors and higher clock speeds that these machines offer make the whole Datalite system more tolerable, and often invisible during everyday operation.

Nevertheless, Datalite is packed with features to help you achieve the best possible storage/performance trade-off for your system. Firstly, you can control how and when compression takes place. If you cannot live without maximum disk performance, you can select Manually Off-line which writes new data to a compressed disk in uncompressed format. You must then compress this new data later using Datalite's optimize function, perhaps at the end of a worksession. On the other hand, if you are completely unconcerned about compression times, you could choose Data Complete On-line which compresses all data before it is written to the disk. It can be slow, but the amount of data this can cram on a disk often leads to double-take glances at the disk-info dialog. A good compromise between the two, however, is All Blocks On which only compresses large blocks of written data. Small write accesses, such as writing into folders, will not be compressed, so overall performance is much better than if you ruthlessly crunch every byte you send to the drive.

In addition to this, you can select which compression algorithm will be used to compress your data. Three methods are implemented, all with differing qualities - for example Huffman is very quick to compress, but it isn't particularly space-efficient and is no quicker to read than it is to write. However, at the other end of the scale, LZSS-Worm is very space-efficient, decompression is exceptionally quick, but write operations may leave you tearing your hair out. HuffWorm, as its name tends to suggest, falls somewhere between the two. There is an Optimum setting, which automatically decides which is the best algorithm to apply to each block of data as it is being written to disk. This leads to good data reduction and fast decompression, and is the setting that most users will wish to use.

Finally, Datalite implements several caches, foremost of which is its own work space. This is proportional to the size of the disks or partitions you are accessing, and surprisingly it doesn't gobble up huge chunks of your user memory - partitions up to 52Mb in size only require a mere 16K to be set aside, although a slightly less frugal approach will speed up the process of copying between two compressed partitions. In addition to this, Gemdos FAT, directory and data caches are available to users of machines with TOS versions 1.04 and higher, as well as an integrated system patch which cures the old 40 folder bug. Bye bye, FOLDR???.PRG!

### Performance Penalties?

Inevitably, this kind of program is going to eat into a machine's processing time. As the test results show, disk read times from compressed media are approximately double those from normal media, which is pretty good going, and for my purposes this is more than acceptable for application execution and data file retrieval. Nevertheless, it can slow up programs which frequently access disk based data, such as compilers and word processor spell checkers - Protext 5.52 took three times longer to check a 3000 word file when installed on a compressed media disk, something which prompted me to move all thesaurus and dictionary files to a normal partition, which restores 100% performance. Write operations are less tolerable, however. As you can see, the partition to partition copy took nearly six times longer than normal when writing to compressed media. Oddly enough, copying between two compressed partitions takes equally as long - I would have thought that since the data had already been compressed on the source partition, it would have been simply a case of copying this compressed data and dropping it en-bloc onto the destination partition. Instead, Datalite appears to be reading the compressed data, decompressing it, immediately re-compressing it and writing it to disk...there may be some deep-rooted technical reason why this has to happen, but it's easy to spot where performance gains could be made.

As a result, I have compressed all partitions which hold static data files, such as PostScript fonts, clip art, and executable files. Any data which is frequently updated or intensively accessed still resides on normal media. This setup provides a good compromise between space gains and performance, and is ideal for my requirements. Other users may place different demands on the system – fortunately Datalite is flexible enough to accommodate most requirements.

## Space Gains

The space savings Datalite offers are entirely dependant on the type of data you are storing. Data files and graphic files tend to compress most efficiently, while executable applications show only a moderate reduction in size. Obtaining an accurate measurement of Datalite's performance in this area isn't particulary easy. Suffice it to say that one 15MB hard disk partition which contains a mix of DTP applications and PostScript fonts is currently holding around 28Mb of data, with Diamond Edge reporting 20% free space still available. Even more impressive is the system's performance with graphic files – I've managed to cram 4.5MB of clip art images onto a standard 1.44MB floppy disk, which is something that a dedicated archiving program would be hard pushed to achieve.

## Compatibility & Reliability

Datalite has been resident on my system for almost six weeks now, and despite a few teething troubles due to incompatibility with one or two ageing Auto folder programs, the whole system has performed faultlessly ever since. HiSoft do point out that you should upgrade to Diamond Edge version 1.10 before installing Datalite, and even then you should not optimize compressed partitions using Diamond Edge. They didn't say why, so in one of my cooler moments, I tried it and everything worked fine – but that's not to say it will work every time, so don't try this at home, kids. One source of annoyment, however, which is apparently unavoidable, is that file recovery utilities are likely to fail with compressed media – a comparatively small price to pay for Datalite's facilities.

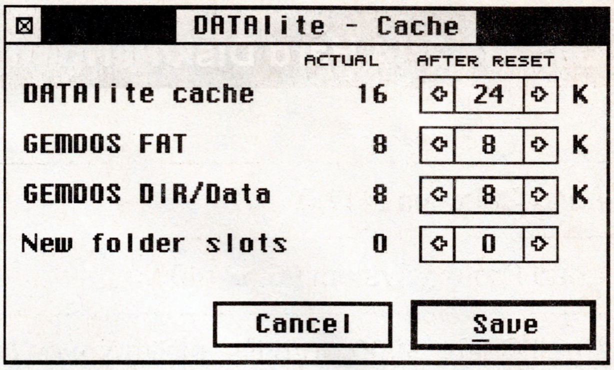
## Conclusion

For:
- ✓ Can easily double the storage capacity of your disks
- ✓ Configurable disk cache
- ✓ Very stable
- ✓ MultiTOS compatible

Against:
- ✗ Can be slow on 68000 machines, especially during write operations
- ✗ File undelete utilities are likely to fail with compressed media

Atari owners envious of PC packages such as Stacker and SuperStor need look no further. Datalite is as stable, efficient and possibly even more polished than its PC counterparts, but it imposes the same hefty demands on your system and really needs a fast machine to get the most out of it.

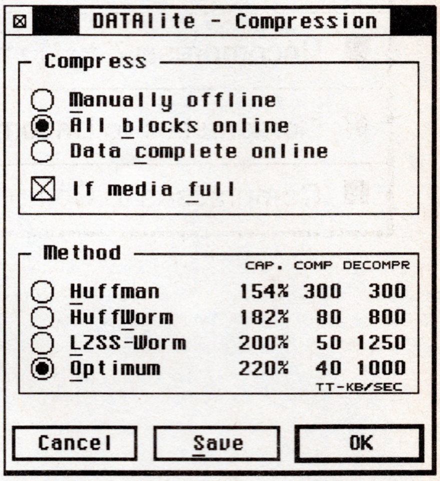
Product:............... Datalite 2
Version:................ 2.16
Developer:.......... Logilex GmbH
Supplier:.............. HiSoft,
The Old School,
Greenfield,
Bedford,
MK45 5DE
Tel:........................ (0525) 718 181
Fax:........................ (0525) 525 716
Price:...................... £49.95
Manifest:............. 1 single-sided disk and wallet, 60-page manual
System:................ Atari ST(e)/Mega STE/TT030/Falcon030, 1Mb+, TOS 1.02 or higher recommended; hard disk users need AHDI 3.0+ or 100% compatible.



DATAlite - Cache

| | ACTUAL | AFTER RESET | |
|---|---|---|---|
| DATAlite cache | 16 | 24 | K |
| GEMDOS FAT | 8 | 8 | K |
| GEMDOS DIR/Data | 8 | 8 | K |
| New folder slots | 0 | 0 | |

△ Along with Datalite's work-space control, Logilex have incorporated a fully featured Gemdos FAT, directory and data cache which significantly speeds up disk response.



DATAlite - Compression

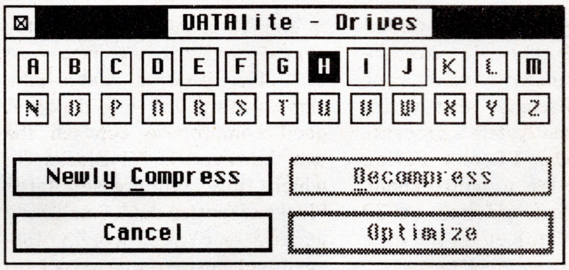
Compress
○ Manually offline
● All blocks online
○ Data complete online
☒ If media full

Method

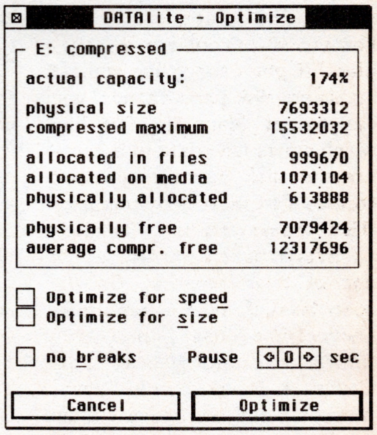
| | CAP. | COMP | DECOMPR |
|---|---|---|---|
| ○ Huffman | 154% | 300 | 300 |
| ○ HuffWorm | 182% | 80 | 800 |
| ○ LZSS-Worm | 200% | 50 | 1250 |
| ● Optimum | 220% | 40 | 1000 |

TT-KB/SEC

▷ The compression dialog allows you to select how data is to be compressed and which algorithm is to be used. Note the efficiency and speeds of each method, obtained on a 32Mhz TT030.



△ Shows status of connected disks and partitions – compressed media are shown with enlarged buttons. From here, normal disks or partitions can be compressed, and existing compressed media can be re-optimized or decompressed, although the latter destroys all data. Also, although highlighted, ramdisks cannot be compressed.



DATAlite - Optimize

E: compressed

| | |
|---|---|
| actual capacity: | 174% |
| physical size | 7693312 |
| compressed maximum | 15532032 |
| allocated in files | 999670 |
| allocated on media | 1071104 |
| physically allocated | 613888 |
| physically free | 7079424 |
| average compr. free | 12317696 |

☐ Optimize for speed
☐ Optimize for size

☐ no breaks Pause 0 sec

▷ Optimization Control Dialog – used to compress new disks or partitions, or re-compress existing media. This 7.7Mb hard disk partition now has a potential storage area in excess of 15Mb.

# REPRO CD

*As the Atari colour publishing market gathers pace, 'retouching packages' are taking on ever-increasing importance. Join Nial Grimes in a leisurely stroll through psychedelic ST heaven, Repro CD style!*

There was a time when image retouching packages were considered a needless luxury, but then along came colour-capable desktop publishers such as Calamus SL and suddenly everything changed.

In the world of colour publishing, if a picture isn't perfect it can't be printed; and very few pictures are ever perfect! Retouching programs relieve some of the pressure from the photographer by allowing computers to manipulate high resolution scanned images in memory, thus improving their quality. Enough theory – let's take a look at the software...

Repro CD has been around for a number of years, but has never managed to receive the recognition it deserves thanks to some truly stratospheric hardware requirements. We're talking a TT with true-colour graphics card and more memory than the entire England chess team here! Fortunately, the Falcon removes the need for any external help in the graphics department, and it's finally possible to use Repro on a stock 4MB machine. At last!

### Mission Control

Boot up the program and you're presented with the Operations screen. This is the nerve centre of Repro, containing the ten-slot image board, a thumbnail view of the active picture and the editing tools themselves. Pressing both mouse buttons simultaneously switches you to and from the image-editing screen itself.

All of the effects and drawing tools are controlled through a system of pop-up menus, icons and dialogue boxes. As nice as it looks, though, intuition has been thrown out the window and the whole thing is a bit of a trial to use. In short, it's the type of program that requires you dig out the manual every time you use it.

Initial befuddlement out of the way, the package runs like a dream on the Falcon. The screen display is handled through two desk accessories – one for 256-colour modes, the other for True Colour – and both make an excellent job of representing 24-bit colour. As we all know by now, it's not possible to use 640x400 True Colour on a VGA monitor, but if it's any consolation you'd probably end up using the 8-bit driver anyway – it's far faster.

Several other accessories are also included to allow Repro to communicate with the outside world. As you'd expect, it's capable of driving most popular scanners, including Epson's GT series. Images can also be sent directly to a number of printers including the HP LaserJet II, Epson page printers and the SLM series. Some colour models are also supported, although given Repro's reputation for incompatibility you should see it working before parting with your money.

In general the interface is fast, but lacks the refinement of PC and Mac-based competition. Even on a 16Mhz machine (I'm in serious danger of sounding like a PC journo here!) it dashes along at a fair old pace.

### Draw The Short Straw

If you're wondering how Repro differs from any normal art package, you'll find the answer in the drawing tools – 'sophisticated' is the understatement of the century! In fact, you would not believe the degree of adjustment you have over the nineteen tools on offer!

The range you have at your disposal can be broken down into four distinct categories: painting, image editing, measuring and special. At the base level you have the painting tools which include chalk, spray, pencil, brush and stamper. By pressing the right mouse button over a tool's icon you can adjust its settings, dictating how much pressure should be applied, whether the tool should fade in or out, how much 'noise' is to be added and so on. Unlike many art packages, Repro's painting tools really do convey the feel of the real thing.

On the next step of the ladder you will find the image editing tools. These affect the relationship between groups of pixels, sharpening, blurring, smudging and randomising them. In effect (if you'll excuse the pun) they're ultra-controllable versions of the 'filters' which we'll have a look at later. Every single tool can be applied at one of eight preset zoom sizes ranging from 100% to 1600%.

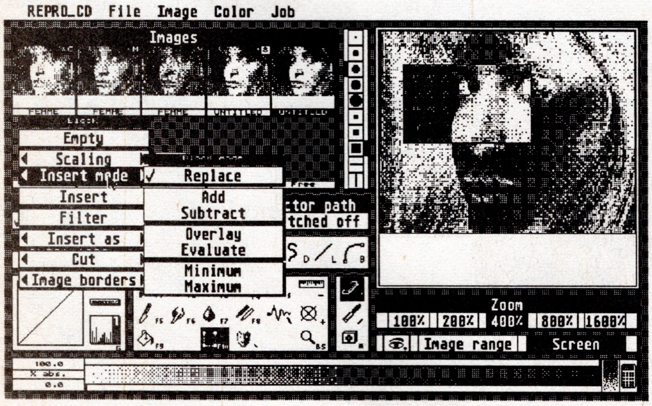
A little bit further up the scale you'll find some of the more exotic tools such as 'block' and 'mask'. The masking tool is without a doubt one of Repro's most powerful features and in simple terms is like the digital equivalent of masking tape. Applying a mask by hand can be very difficult, but the package automates the process somewhat by allowing you to cover a certain colour, or range of colours. Given this flexibility, it's a piece of cake to trace the outline of objects within a picture.

As far as block handling goes Repro scores very highly, although once again it's a manual-on-lap job. Of particular interest is the way that blocks can be combined with filters and overlaid on the original image, to devastating effect!

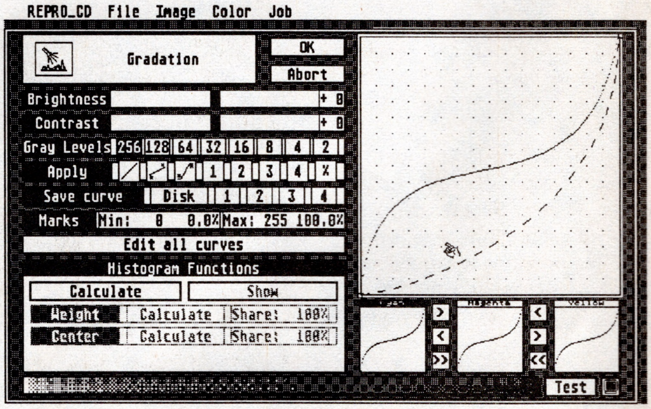
### Cause And Effects

Most people tend to think of 'effects' in terms of startling changes – inverted colours, polarization et al – but you'd be surprised at how many 'normal' photos can benefit from some subtle adjustments.

Repro has a total of ten effects built-in and the rest are supplied courtesy of a desk accessory. The internal filters are quite basic and

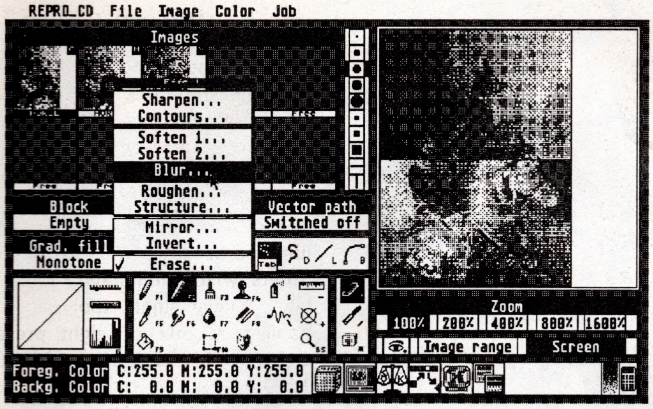


△ Block handling is very powerful and equally complex. Quite a number of keystrokes and mouse clicks are required for even simple cut and paste operations.



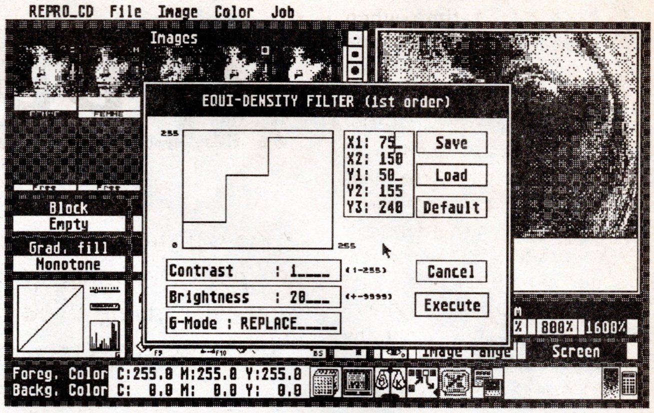
Brightness + 0
Contrast + 0
Marks Min: 0 0.0% Max: 255 100.0%
Weight Calculate Share: 100%
Center Calculate Share: 100%

△ Repro's gradation dialogue is far more flexible than its Calamus SL counterpart. Basic brightness and contrast can be adjusted via sliders, or you can opt to edit the curve directly.



Foreg. Color C:255.0 M:255.0 Y:255.0
Backg. Color C: 0.0 M: 0.0 Y: 0.0

△ The ten built-in effects filters are very easy to use. Most of the names are self explanatory and by clicking the right mouse button over an entry, subtle adjustments are possible.



X1: 75
X2: 150
Y1: 50
Y2: 155
Y3: 240
Contrast : 1
Brightness : 20
G-Mode : REPLACE
Foreg. Color C:255.0 M:255.0 Y:255.0
Backg. Color C: 0.0 M: 0.0 Y: 0.0

△ This is where things begin to get a little bit tricky. The FX desk accessory contains twenty filters, all of which are adjustable in a huge number of ways.

very easy to use – just select the level of power and away you go. Each effect can be limited to blocks and can also be instructed to pay attention to a mask if you've defined one. Most of the effects only operate on 24-bit images, but conversions can be handled internally.

The FX accessory on the other hand takes a lot longer to master. The effects lack the logical (soften, sharpen, blur) names of the internal filters and the results are much more dependent on practice. Twenty are included and all are user definable to a huge degree – it's almost frightening! The situation is not helped by a complete lack of documentation and believe me, if any part of the package needs them, this is it!

Fortunately, when things do go disastrously wrong (as they will, frequently) an undo system is ready to jump in and help out. In fact the undo system employed by Repro is one of the most advanced I've used, being fully programmable for each and every picture in memory.

Of course an image can be close to perfect and still require some adjustment in the brightness and contrast department. This is accomplished through an SL style dialogue box, although the degree of adjustment on offer puts Calamus to shame. Sliders make it easy to adjust brightness and contrast without getting bogged down in control curves, and the image can be previewed without leaving the dialogue.

## Post Haste

Get this far and you'll probably be wondering what to do with your image once it's perfected. Well, Repro offers a number of output options ranging from TIFF files (separated or standard) to encapsulated PostScript code.

Unfortunately, the curse of Atari DTP lives on and you'll have trouble using most of Repro's output with any other package. The situation isn't helped by the confusion of UltraScript and PostScript in the output dialogue box (not that it matters too much – both are capable of crashing just about any package you throw them at!).

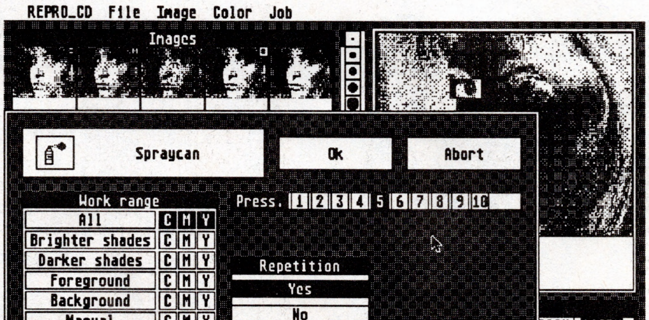
Fortunately, the uncompressed TIFF output seems to be totally foolproof and every package I've tried loads these without any problems – but watch out for the file size! Apparently a 'publish and subscribe' system is soon to be adopted, which will completely solve the problem for Didot users at least.

## What's Up Doc?

When it comes to software as powerful as Repro, you really do need a decent set of manuals and in this regard the package does deliver the goods – to a certain degree. It's a ring-bound A4 affair and every operation is given the 'step-by-step' treatment, although I suspect I'm not alone in thinking that a package costing this much should come with something more than photocopied documentation.

The real problem with the manuals, though, is that they just don't document everything the package is capable of doing. For example, the filters accessory isn't even mentioned and it took me at least a month to discover that double clicking on the entries allowed configuration of the effects! At least half of the blame can be apportioned to the package itself, really – a little more intuitive and you wouldn't need a manual!

On the bright side, very few German packages come with documentation that's been translated as well as this and much of the missing information can be worked out once you're used to working with Repro. CGS are also promising 'DA Vector' style hypertext which should improve things dramatically.



Intensity 120
Size 20
Noise 30

△ Every single tool can be finely adjusted to suit the task in hand. For example, the chalk can be instructed to affect only colours darker or lighter than a certain shade.

## The Colour of Money

Looking through this review you might come to the conclusion that I dislike Repro – not true. Take it straight: Repro CD is a cracking piece of software that adapts very well to running on the Falcon. It's just that, like so much Atari software these days, the programmers seem to have spent far too much time on the specification sheet while paying very little attention to usability. Then again, maybe I've been using too much Mac software lately!

If you're in the market for some high powered Atari image processing software I'd recommend Repro almost without reservation. You do need a well endowed machine to use it effectively, but considering the power on offer, it's remarkably nippy.

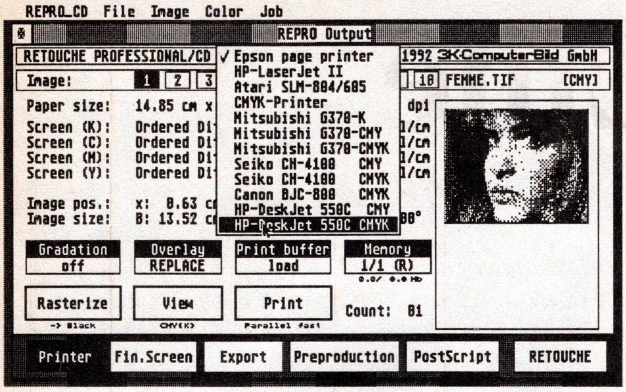
On the other hand, if you can spare the time, it might be worth waiting a few months to see how the Falcon image processing market shapes up. I know of at least six packages in development and most promise price tags far lower than £500.

## Points For:

- ✓ Flexible, powerful and fast
- ✓ Makes the most of Falcon screen resolutions

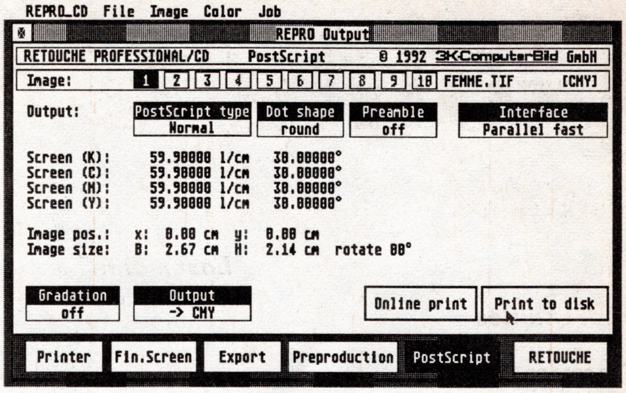
## Points Against:

- ✘ The manuals are out of date
- ✘ Complex user interface
- ✘ Far too expensive
- ✘ Incompatible PostScript


REPRO_CD File Image Color Job
REPRO Output
✓ Epson page printer
HP-LaserJet II
Atari SLM-804/605
CMYK-Printer
Mitsubishi G370-K
Mitsubishi G370-CMY
Mitsubishi G370-CMYK
Seiko CH-4100 CMY
Seiko CH-4100 CMYK
Canon BJC-800 CMYK
HP-DeskJet 550C CMY
HP-DeskJet 550C CMYK
Rasterize
View
Print
Printer
Fin.Screen
Export
Preproduction
PostScript
RETOUCHE

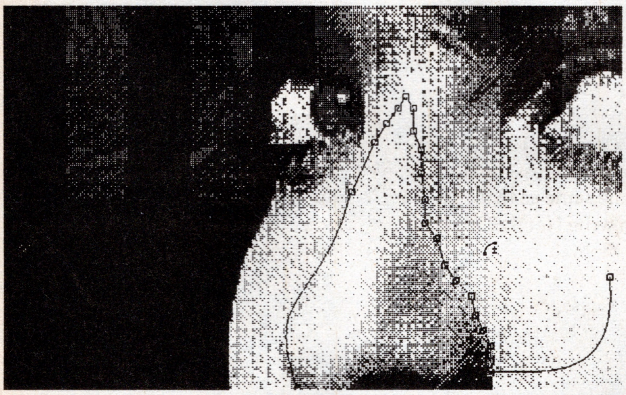
```
RETOUCHE PROFESSIONAL/CD                1992 3K-ComputerBild GmbH
Image:  1  2  3                      10  FEMME.TIF        [CMY]
Paper size:   14.85 cm x                 dpi
Screen (K):   Ordered Di                 1/cm
Screen (C):   Ordered Di                 1/cm
Screen (M):   Ordered Di                 1/cm
Screen (Y):   Ordered Di                 1/cm
Image pos.:   x:  0.63 c
Image size:   B: 13.52 c                 00°
Gradation   Overlay    Print buffer   Memory
off         REPLACE    load           1/1 (R)
                                      0.0/ 0.0 Mb
-> Black    CMY(K)     Parallel fast  Count: 01
```

△ Repro can proof images to a large variety of printers including the DeskJet 550c. Just drag your pic to the required position on the page and away you go!


REPRO_CD File Image Color Job
REPRO Output
Online print
Print to disk
Printer
Fin.Screen
Export
Preproduction
PostScript
RETOUCHE

```
RETOUCHE PROFESSIONAL/CD      PostScript      © 1992 3K-ComputerBild GmbH
Image:  1  2  3  4  5  6  7  8  9  10  FEMME.TIF        [CMY]
Output:   PostScript type   Dot shape   Preamble   Interface
          Normal            round       off        Parallel fast
Screen (K):   59.90000 l/cm   30.00000°
Screen (C):   59.90000 l/cm   30.00000°
Screen (M):   59.90000 l/cm   30.00000°
Screen (Y):   59.90000 l/cm   30.00000°
Image pos.:   x:  0.00 cm   y:  0.00 cm
Image size:   B:  2.67 cm   H:  2.14 cm   rotate 00°
Gradation   Output
off         -> CMY
```

△ The output accessory will also print encapsulated PostScript to disk, but I'm blowed if I can find a package that will load it!



◁ Vector paths are ideal for precision work – just lay down a few Bézier curves and the tools will stick to them like glue!

| | |
|---|---|
| Product: | Repro CD |
| Version: | 1.03 |
| Price: | £499 (Includes Didot Professional CD) |
| Supplier: | CGS |
| Telephone: | 081 6797307 |
| Manifest: | A4 ring-bound manual and three DS disks |
| System: | Falcon or TT with graphics card. |

100

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# Going On-Line

Mark Baines

## Point Systems: Part 2

***Last month I wrote about the advantages of being a Point System for regular users of bulletin board systems. I also mentioned one of the three components of any Point system package, the mailer BinkleyTerm.***

### *Mail Utilities*

The core program of any Point system is the mail management utility or 'mail tosse'r which can either exist as a single program or a suite. There is a choice of two such set ups, IOSMail and ACS. There isn't much difference between them but IOSMail has the edge on functionality, although ACS comes with a shell program from which it can be configured and run. However, I found this shell unreliable and often had to resort to editing the configuration files it made by hand. Batch files and a command line interface program work just as well, but a new user will find it easier at first. ACS is also slightly faster in operation but this is of little consequence unless you haven't a hard disk. I prefer (and use) IOSMail.

The main job of the mail tosser is to organise and manage all the messages and NetMail in your Point system stored on disk in named Areas. The Areas correspond to the echoes and are an exact duplicate of those on your sysop's bulletin board. The mail importer part of the program takes the packets received by Binkley from your boss node and decompresses them into folders on your disk which can then be accessed by an off-line reader. These structured files containing the echo and NetMail messages can be read and added to by yourself just as if you were on-line. When you next poll your boss, the mail scanner looks to see if there are any new messages from yourself and copies them all out into a separate file which the mail exporter or packer sorts and compresses into a single packet giving it the correct coded file name necessary for the system. The exporter makes one file for each of the networks you are active in. These files are then sent by Binkley to your boss where it is imported into his system.

The mail scanner also deletes any messages over a certain age limit determined by yourself so that you don't clutter up your disk with old ones. Private NetMail to yourself is placed into a separate Area and IOSMail will even sort out all messages in the echoes addressed to you into a separate local Private Mail Area so that you can deal with them altogether in the off-line reader. The mail tosser can also deal with duplicate messages and delete them if required. It is also responsible for making sure that messages are addressed correctly so that they take the correct routes to arrive at their destination. This is particularly important with NetMail. It can also add the origin line to the bottom of your messages which provides a little reminder to other readers of who or where you are.

The setting up of IOS or ACS is even more difficult than Binkley especially if you wish to take more than one network or domain. Again, your sysop will help you out here as it is just as much in their interest to get you set up correctly as it is in yours.

The documentation for IOS is better than ACS but both provide thorough details of setting up and configuring the software. However, again there are things taken for granted in important areas, but overall they are detailed and useful. ACS is perhaps slightly easier to set up initially from within the BTS shell program it comes with but do be wary of it and do learn to understand the make-up of the configuration files and edit them by hand. The configuration of IOS is done manually but this isn't too much trouble especially after studying some of the examples provided and obtaining one from your sysop. IOS is freeware and be careful not to get v0.90 but v0.89 instead. ACS is up to v1.33 and 'crippled shareware'. The crippling makes it almost impossible to use without paying the necessary fee of DM50.

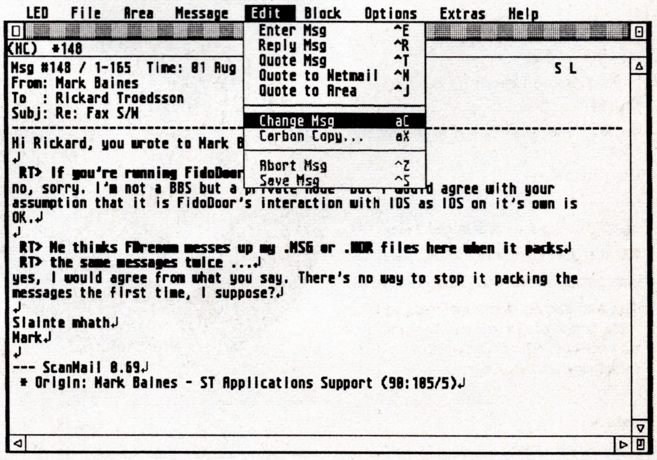
### *The Off-Line Reader LED*

LED (Little red EDitor) is specially written to complement the mail tossers such as IOS and ACS. It is fully GEMmed and looks for its messages in the files and folders managed by the mail utilities. From here you can read and reply to messages with the usual ease and convenience of an OLR with the added benefit that you can refer to old messages for as long as you wish to keep them. LED accesses what is essentially a set of echoes the same as those on-line. You can write NetMail messages sending them to any address letting the tosser deal with the routing. Messages can be moved into your private local message areas for reference later or quoted in another echo or NetMail. You can 'carbon copy' mail to various users or send files to individuals by attaching files to NetMail. Various messages flags can be set or unset, such as Kill or Hold. File Requests can be made from LED which produces a little file that Binkley sends to your boss requesting the download of a named file. You can send specially addressed NetMail to your boss's software commanding it to send or stop sending messages from certain echoes so that you only ever receive what you want. These echoes also include file echoes, so that you can automatically receive any programs and text files circulating the network, including the on-line magazines.

LED is the bee's knees of OLRs and is postcardware (send a post card to the writers). It is fully featured, stable, versatile and easy to use. It doesn't once get in the way of doing the job, but has the capability of getting down to some low-level nitty-gritty if required. However, it is only of any use to Point systems and sysops and can't be used as an QWK packet OLR.

To complete your Point setup you will require nodelists of the networks you wish to participate in and a program to process them called ParseLst. To gather all this software together be prepared for some very large downloads or better still try to get your sysop to send the whole lot on a disk to you.

EMail:
Internet:
msbaines@cix.compulink.co.uk
FidoNet:
2:259/29.10@fidonet.org
NeST:
90:105/5@nest.ftn
TurboNet:
100:106/0.10@turbonet.ftn



```
(HC)  #148
Msg #148 / 1-165  Time: 01 Aug
From: Mark Baines
To  : Rickard Troedsson
Subj: Re: Fax S/N
--------------------------------------------------------------------
Hi Rickard, you wrote to Mark B
↲
 RT> If you're running FidoDoor
no, sorry. I'm not a BBS but a private node but I would agree with your
assumption that it is FidoDoor's interaction with IOS as IOS on it's own is
OK.↲
↲
 RT> Me thinks FDrenum messes up my .MSG or .NDR files here when it packs↲
 RT> the same messages twice ...↲
yes, I would agree from what you say. There's no way to stop it packing the
messages the first time, I suppose?↲
↲
Slainte mhath↲
Mark↲
↲
--- ScanMail 0.69↲
 * Origin: Mark Baines - ST Applications Support (90:105/5)↲
```

LED Off-line Reader - About to change a message in the NeST Atari ST echo from me to Rickard in Sweden. The Origin line is placed there by IOSMail and can be different for each echo.

# Desktop Publishing with the Atari ST

## Part Eight: Converting Graphics Files

**Günter Minnerup**

Given that all computers work to the same simple logic of the binary system, knowing nothing of the big wide world of text and graphics other than the two numbers 0 and 1, you would expect the exchange of data between them, and between different software applications, to be a fairly straightforward matter. But as we all know, things are not that simple: different hardware manufacturers, operating systems designers and software houses have applied all their ingenuity to making their products mutually incompatible by devising ever new ways of representing the same basic data in ever new fashions, in order to ensure that you are locked into their rather than their competitors' system. Thankfully, the trend seems to be turning now in the opposite direction at last and the remaining incompatibilities have been alleviated by increasingly standard user interfaces, data exchange protocols, disk and file formats, as well as the tendency to port successful applications to several operating systems and hardware platforms.

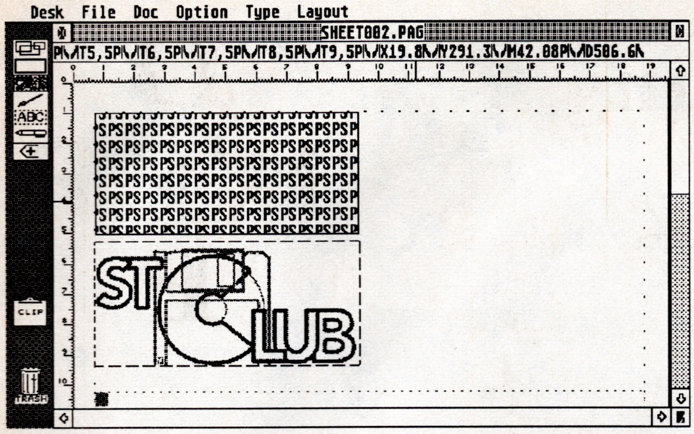
Yet for the ST desktop publishers, coming to grips with the confusing multiplicity of graphics file formats can still be a considerable headache. Atari software, especially in the early days, must have been driven by an unconscious desire to break all records for diversity in file formats – there are certainly far more of these for the ST than for any other personal computer. In part, of course, this was due to the fact that the machine offered three different screen resolutions, as well as to Atari's failure to provide clear guidelines to software developers. In time, however, some sort of de facto standard for bitmaps was emerged in the dual form of GEM image files (IMG) for high-res monochrome pictures of any size, and Degas (PI1, PI2, PI3) for screen-oriented bitmaps in the three ST video resolutions – the latter being the result of the huge success of Tom Hudson's Degas/Degas Elite paint packages.

Most of the screen-oriented bitmap formats can now safely be forgotten by serious desktop publishers. Although DTP packages still tend to offer import filters for Degas and sometimes even the more exotic formats (PAC, PIC, ART etc), these pictures will be far too small when printed at 300dpi and above, or far too blocky when scaled up to a reasonable size. IMG is now the universal monochrome bitmap standard for the ST, and even where packages such as Calamus and Didot Professional (unique in its inability to directly import IMG) prefer their own custom formats (CRG, TIM), they take care to provide easy conversion facilities to and from the GEM image standard. On top of that, the IMG file format is supported by many PC applications (especially those which had their origins in the PC version of GEM) and there is even a public domain utility for the Mac that converts Apple bitmap images into IMG files.

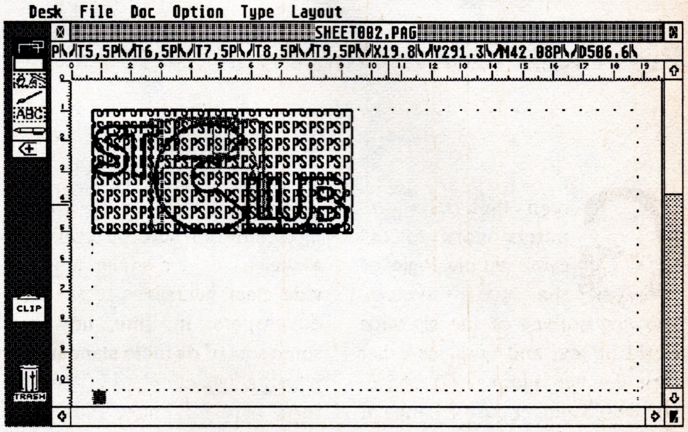
Provided you don't output directly to colour printers, IMG files are in theory all that should ever be needed since IMG files can be of any size and normal printing consists of placing black dots onto white paper (or film, in which case it is usually the reverse). The only real difference, after all, between printing monochrome clipart on a laser and process colour separations on an imagesetter is in the size and number of the dots. The first scanners to appear for the ST took advantage of this fact by having hardware dithering built into them: the grey tones of a black-and-white photo, for example, were instantly converted into monochrome dot pattern and saved as IMG files. The quality of such scans could be very good indeed, but the drawback was that the monochrome dither pattern no longer contained any greyscale information and could therefore no longer be adjusted in their tonal values (brightness, contrast, etc.). And since they were just black and white dots of fixed size, enlarging or reducing them was impossible without distortions (moiré patterns, blockiness).

With the advent of true greyscale and colour scanners, and the increasing use of very high resolution printers, even Atari DTP began to adopt more flexible file formats. The fact that ST DTP was somewhat behind other platforms, especially the Mac, in this field had the beneficial side effect, for once, that Atari software developers tended to adopt the industry standard formats rather than concoct their own. For greyscale and colour work, in particular, the "Tagged Image File Format" (TIFF) has become nearly universal, although the GIF (Graphics Interchange Format) originally developed for the Compuserve electronic conferencing system has remained popular where good data compression is desirable. Uncompressed TIFF tends to be rather unwieldy – not surprisingly, given the huge amount of greyscale or colour information they contain – and there are so many different versions of compressed TIFF around that porting them between applications – let alone platforms – can be a chancy business. Filesize permitting, you should therefore work with uncompressed TIFFs, at least until you have established beyond doubt that both source and destination applications understand the same compression algorithms.

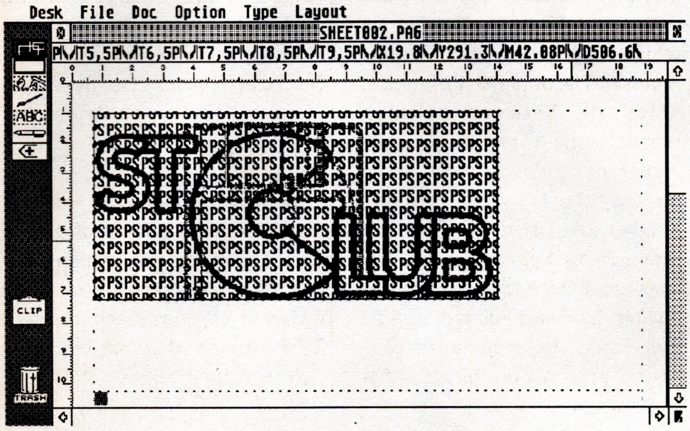
The picture (no pun intended) is further confused by the fact that the leading scanned image editing package for Atari computers, Retouche Professional, uses its own subset of TIFF: TIM (monochrome), TIH (halftone greys) and TIC (colour). These are optimised for Retouche's own internal use and have also been adopted by Didot Professional, the page layout software from the same stable. If you own Retouche there is no real problem as it can also save images in a variety of compressed and uncompressed standard TIFFs, but what if someone sends you a TIH file for inclusion in a document produced with Calamus or PageStream? The answer is Jeremy Hughes's


Desk File Doc Option Type Layout
SHEET002.PAG
P\/T5,5P\/T6,5P\/T7,5P\/T8,5P\/T9,5P\/X19.8\/Y291.3\/M42.08P\/D506.6\
CLIP
TRASH

◁ One of the problems with **EPS** files on the **ST** is that, even if your **DTP** program supports **EPS** import, you will not normally be able to see their contents on the screen. Mac-originated **EPSFs** often contain bitmap representations in **PICT** format, but neither **PageStream** nor **FSP3** can show these. However: convert the image to an **IMG** bitmap of the same size (using the application with which it was originally created, or **CompoScript**) and import both alongside each other as shown here on this **Fleet Street Publisher** page.


Desk File Doc Option Type Layout
SHEET002.PAG
P\/T5,5P\/T6,5P\/T7,5P\/T8,5P\/T9,5P\/X19.8\/Y291.3\/M42.08P\/D506.6\
CLIP
TRASH

▷ It doesn't matter if scaling makes the bit-image file slightly blocky or distorted, as a rough visual representation of the EPS contents is quite sufficient. Identical dimensions for both are much more important for this trick to work correctly. Once you have imported the two, move the IMG file exactly on top of the EPS block and group them together. Make sure the IMG file is in the foreground.


Desk File Doc Option Type Layout
SHEET002.PAG
P\/T5,5P\/T6,5P\/T7,5P\/T8,5P\/T9,5P\/X19.8\/Y291.3\/M42.08P\/D506.6\
CLIP
TRASH

◁ You can now move, scale or crop the two blocks as one, making it possible to judge with reasonable accuracy what the effect of these operations on the printed EPSF will be. Once you are happy with the result, just ungroup the two again and delete the IMG file.

excellent new version of Imagecopy (as sold by the ST Club), which will read Retouche files with only a hint of protest, and happily convert them to a large number of other formats.

The same cannot be said for its main rival, the German shareware program Gemview, although this is also indispensable because it will read and write an even larger variety of file formats than Imagecopy. I tend to use Imagecopy when ST-originated files are involved as it covers those pretty comprehensively, and Gemview for the more exotic PC and Amiga formats.

On the whole, bitmap images are relatively easy to convert even when they contain greyscale or colour information. Vector graphics, however, are in an entirely different league altogether. Their different methods of storing objects are so difficult to reconcile that conversion utilities are quite rare, and don't always work well especially where text and colours are involved. Two of them are of particular interest to Atari desktop publishers: PostScript, because it is very much the industry standard, and GEM metafiles because they are so common not only on the ST but also on the PC.

In theory, GEM metafiles should be the most useful since this format is supported by almost all vector graphics and DTP programs on the ST, as well as a few on PCs. In practice, however, there can be severe compatibility problems in connection with Bézier curves, fill patterns and fonts – the metafile version of the ST Club logo designed last month, for example, would not load properly into either Calamus or Fleet Street Publisher. As long as you have the original application with which the image was created, however, there is no real problem: just remember that, in the end, the vectors are converted to bitmaps anyway. So if I want a stroppy GEM metafile logo in the document at the right size and resolution, I simply insert a temporary picture frame, make a note of its dimensions, go back to the vector graphics program, load the image, scale it to the required size, and save it (print it to disk) as an IMG bitmap to replace the temporary frame.

EPSF files are simply PostScript files with an additional header which gives the receiving application the position and dimensions of the graphic in the form of a "bounding box". It looks like this:

```
%!PS-Adobe-2.0 EPSF-1.2
%%Creator:
%%For:
%%Title:
%%CreationDate:
%%BoundingBox: llx lly urx ury
```

The first two co-ordinates (llx, lly) define the bottom left corner of the image, the second two (urx, ury) the top right corner. Since the units used are more or less identical to points, it is fairly easy to reposition or crop an EPSF manually, or even to convert an "ordinary" PostScript output file to EPS. If you need to use an existing piece of EPS clipart with an application that does not support PostScript, all is not lost for there are two methods of preparing EPS for, say, Calamus. The more tedious one is to print out the image using UltraScript or CompoScript, and then scanning it in (you could even autotrace the scanned printout to turn it into a CVG or GEM vector image). The simpler one is possible only with CompoScript: print it to screen and use a screenshot capture utility, or convert it to an IMG or TIFF bitmap.

*Next month: Back to the projects.*

# Grafix Arts

Paul Keller

## TECHNIQUE – 3D Modelling

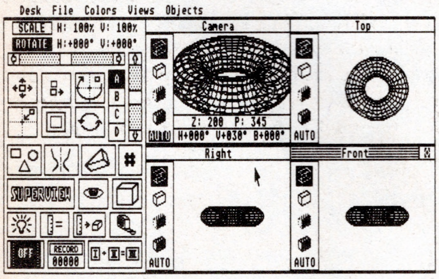
There is no dearth of 3D Modelling packages for the ST, indeed quite the opposite - there is a multitude of modelling packages available. Many such packages can be picked up through the public domain libraries for less than £2, and in the past year many top packages such as Cyber Studio and GFA Raytrace have been made available to the mass market through ST magazines such as ST Format and ST Review. In this issue we explore some of these packages and take a look at the creation of 3D pictures on the ST.

### *Packages*

Of the many 3D modelling packages released for the ST two stand out above the rest for the beginner to 3D modelling, Cyber Studio and GFA Raytrace. Both these packages, given away with two major ST magazines, are easy to get to grips with because of the way icons are used to simplify control.

Both adopt a Windows method of viewing any creations, with a top, right, front and 3D view for construction purposes. Both programmes are fun and easy to use, as well as being quite fast at constructing any finished 3D models.

Having used both packages I found that both had advantages over the other but that for me Cyber Studio was the better of the two, offering more versatility than GFA Raytrace.



Above: Work screen of Cyber Studio

Cyber Studio is limited to a 16-colour display but is flexible in how you position colours in any palette, which allows for more versatility of colour in any design. Because Cyber Studio uses 16-colour mode it is easy to export any finished work into any paint package you might use. Although GFA Raytrace boasts a 512-colour display, it is limited to about 40 colours per scan line, but images can be loaded into Spectrum 512, thereby keeping the 512-colour format.

Both packages allow the importing of a 16-colour background screen, which can be useful for setting the scene of your animation. A good example would be a space scene made up of a black area with white dots for stars.

I would recommend the three packages Cyber Studio, Cyber Paint and Cyber Control to anyone interested in ST art; each is powerful in its own right but together they can be used to produce phenomenal animated results. GFA Raytrace can be used in conjunction with GFA Basic to help animate its pictures also, but the drawback is that you need a good grounding in the basic language if you are going to use any advanced animation with it properly.

There is a similar problem with other packages such as QRT and STOS Basic and 3D STOS in that you have to first learn a language before you can use the programs in question to their full potential.

### *Patches*

Examples of types of patch include cubic (an interpolating patch) and Bézier (an approximating patch).

Patches are small pieces of curved surfaces, generally created for a polygonal model, each polygon becoming a control polygon for one patch. While there are several types available on more sophisticated modelling systems than the ST it is still possible to use the patch principle for some types of work.

Use of the patch method works best on symmetrical objects if you are working with a polygon model within a standard art package such as Degas. The major reason for this is that your work can be mirrored, saving on half the creation time. Control polygons may vary and this will mean different patches being needed at certain points in your creation. Once you have created a patch simply use it as a block and paste it over the relevant polygons. Cyber Studio is a good programme for creating polygons to experiment with patches on.

### *Spheres*

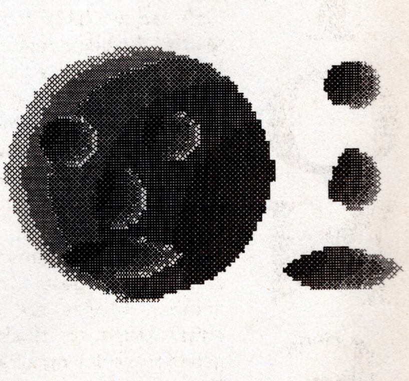
We will now look at some interesting sphere creations that can be made with an ST paint programme such as Degas Elite and a little experimentation.

First a range of colours such as a selection of greys black to white are selected for our colour palette, and then a 'disc' command is selected. Going through our range of colours in our example, white is chosen as the background colour, and then a black disk is selected and placed down on the screen. Moving through our selection of colours in order of dark to light, disks are layered over each other leaving each one showing through. In outline x-ray mode a circle outline of the disk is used, this being placed over the layered disks to cut out our sphere. Use the fill command to erase any layers outside of the outline, erase the outline by filling the entire screen with the outline colour, and fill this colour with the background to reveal a finished sphere.

By use of a few special effects we can easily create a face with this sphere. First place a copy of the sphere on another page and reduce its size. Mirror it left to right and top to bottom to create an eye. Make a copy of this and place the two in the appropriate positions.

Next make a further copy of the eye and stretch this down to create a nose, placing this too on the large sphere. Create a mouth in a similar way but stretch horizontally instead.

This example shows what can be done with a little experimentation and imagination. Try creating a cone and cube in a similar way to the above method.



Above: 3D view of a face made up from a sphere

# FALCON

# APPLICATIONS

### *Audio Master From Q Tek*

A new audio distribution company called Q Tek UK has been set up by Midi specialists Q-Logic. It is to take over the UK distribution of Q-Logic's *MIDI Metro* (a rack mounting visual metronome with a MIDI interface) and MIDI Bar Counter (a 2U half rack size lightweight ABS unit with an LED display of the MIDI bar count), leaving the parent company to concentrate on product development and export markets.

Q Tek's first new product will be a 2 track digital editor for the Falcon. It is called *Audio Master* and is an S/PDIF interface with coaxial and optical inputs and outputs, which allows professional quality 44.1khz and 48khz sampling. Q Tek also distribute the Friend-Chip range of studio tools and a number of Atari accessories such as the K..AT keyboard remote and MM1, a Midi multiport which gives 128 virtual channels. For information on Audio Master or any of Q Tek's other products, contact *Q Tek*, 99 Douglas Street, Dundee DD1 5AT; Tel: 0382 200808.

### *Image Processing From Titan*

Titan Designs have just released the Falcon version of *Hyperion*, their True Colour image processing and editing software. It allows 24-bit or 16-bit True Colour images to be edited as well as 256-colour pictures. True Colour images can be converted to 256 colours and vice versa.

A large number of image processing tools are available, including the ability to alter the brightness, contrast or equalisation of the palette. It supports false colouring, converting to grey scales, superspiking, edge enhancement, smoothing, masking, Sobel filtering and Prewitt filtering, and you can perform AND, OR, NOT, MAX, MIN and NEG logical functions.

Any part of an image can be cut out and copied or pasted from one image to another. Images are edited by using either brush or block transform and generic overlaying allows transforms to be used once or as a continual process, i.e. transform upon transform.

Hyperion runs in any resolution but obviously the image display is dependent on the resolution. On an ST, a true colour image can be edited, but only 16 colours will be displayed on screen. The display consists of a separate toolbox screen and image screen. The work screens are represented by 'thumb nails', which are essentially, miniature representations of the image held in that screen. Images larger than the physical screen are supported using high speed scrolling routines. Zooming of up to 16 times is available for detailed editing work.

Hyperion supports TIFF, TGA and GIF format images with or without compression and is fully GDOS and SpeedoGDOS compatible. The Falcon version is out now at an introductory price of £79.95 (normal price £99.95) until 31st December 1993. The ST version is expected soon. Contact *Titan Designs Ltd,* 6 Witherford Way, Selly Oak, Birmingham B29 4AX; Tel:/Fax: 021 414 1630.

Also new from Titan is an ideas processor called *Thought!* It is Falcon compatible and fully supports MultiTOS and SpeedoGDOS. Check out this item in the main news section for more information.

## Falcon News

### *In The Pipeline From Compo*

Compo Software have just announced that they have both a '386 and a '486 version of their PC emulator for the Falcon 030 under development. The board plugs directly into the Falcon's expansion bus and is field upgradable. This means that it will be possible to upgrade the '386 version to a '486 at a later date. Tests are showing a Norton Factor of up to 44 for the '486 version. No prices were available as we went to press but both products are expected to be available early next year.

Also in the pipeline is a voice mail system for the Falcon. This is essentially a rather technologically advanced answering machine based around the Falcon. You can record various messages and save them to disk, dispensing with the need to re-record your outgoing message each time you leave, to correspond with differing circumstances. Instead, you can simply select the relevant outgoing message from a list. It is also possible to create a new outgoing message by stringing together two or more existing messages. It will also be able to direct messages to the correct person, e.g. key 1 for technical, 2 for sales, 3 for accounts. The messages are then saved to your hard drive, appropriately grouped, for you to replay at your leisure. No details of price were available as we went to press, but early next year is pencilled in as the release date.

Finally, Compo are now able to supply a TOS 4.04 upgrade service for Falcon owners. The price depends on whether your machine has ROMs or EPROMs fitted. If it has EPROMs, it's simply a case of re-blowing them at a cost of £35. Unfortunately, users with ROMs will have to pay an extra £30 one-off charge to exchange them for EPROMs. Compo are to offer TOS upgrades for the Falcon as an ongoing service, always having the latest version available. Their advice is only to upgrade if you are experiencing problems with your current operating system, since no-one knows how many more revisions there will be before things settle down.

# Blasted Screen!

**Piper**

*This is really a very straightforward piece of equipment, and so there's no need to babble on about it. I will anyway, but there's no need.*

### Sticking it in

The unassumingly named Screenblaster is kind of a hybrid between a video card, a software overscan and a camel. Okay, maybe not the camel. There's a piece of hardware that you plug into a video port with a lead that goes into one of the joystick ports on the side of the machine. The video port bit is another hermaphrodite with male and female ends, so you can plug your normal video adapter into it, whether it's for VGA or run-of-the-mill monitors. You then stuff some software into the auto folder, reboot and get offered a number of different screen resolutions to choose from, the range depending on what monitor you're using and how many colours you've got set up.

Basically, this is a hardware/software combination for the Falcon which tries to overcome Atari's built-in graphical restrictions. It will allow you higher resolution, higher screen refresh rate and higher blood pressure, all combined with a lower bank balance. If this sounds appealing to you, there's more.

### Take it to the Max

The arrival of the Screenblaster has been long awaited, not only by those of us who want to look at it, but also by Compo, the UK distributor who eventually gave up saying "next week" after it became obvious that the suppliers were still testing the thing out and weren't prepared to release it until they were certain it measured up. But now it's here. Play time.

First of all, I tried getting a better TV picture, using an ST/SCART connector. No joy. This is strictly a "Monitors Only" club, even if you do bypass the RF output.

I moved on to an SVGA I was able to borrow from the nice people at the Cambridge Academy of Transport (great company , use it all the time). On booting up, you're offered a screen of options, showing you what resolutions and refresh rates are available. What you can get depends on how you've set up the colours. With lots of colours, there's lower maximum resolution, understandable, but still disappointing for us optimists. There's a default option for the set up, so that if you don't press any buttons the computer will carry on booting up anyway after waiting a few seconds.

My first choice was to go to the max. I know, totally out of character, but I did it anyway. I took a look at 1024x980 in 16 colours at 91Hz interlace. I wouldn't want to use it for any detailed poring over of documents, but it really makes pictures seem smoother, you just can't see the pixels unless you're scanning the screen with a magnifying glass - not my favourite Sunday afternoon pastime.

Then I tracked back to see how the screen would look in its normal 640x480 mode, but with a refresh rate of 70Hz. It's better. The white backgrounds to pictures look more like white backgrounds rather than computer monitor displays. Doing some word processing is as untiring on the eyes as it is on the Atari mono monitor, but with colours added. Move it up to the almost-SVGA mode of 806 x 609 (weird, why not real SVGA at 800x600?) where it stays at the same refresh rate as Atari currently grant the rest of us, 60Hz, and you can get a lot more on screen, perfectly legible, using the 256-colour mode.

### Limited Options

So that you get to see some of the difference this device can make, I moved over to mono screen (multi-colour pictures don't translate too well to black and white print) with an Atari SM144.

There are only four options shown when you boot up (see Figure 1), but you actually have five, since pressing UNDO bypasses Screenblaster (and speeds up your NVDI. No joke! Read the NVDI review for more details), giving you the standard Atari resolution of 640x400 at 70Hz. Screenblaster offers the same refresh rate for a bigger screen (standard VGA size of 640 x 480), so with the same quality you get more picture. You lose a little when you get larger, since the vertical refresh rate drops, but only by 0.5 Hz, not really noticeable for an uncultured bumpkin like myself.

For those of you convinced that size IS important, you can go up to 1024x768, but only by switching over to interlace. Admittedly, it's not as bad as Atari standard Flicker mode, and it does give a lot more information on screen if you happen to need it on the odd occasion, but it's not something that you should consider working with constantly unless you happen to have a self-torture routine in your daily schedule, or you think your face would look better if your eyes fell out and were hooked up to a Newton's Cradle.

### The One and Only

Since I've had this turn up for review, the hardware has not left the back of the machine, and the software is nearly always switched on. (Okay, so it doesn't work with games, but does anything?) When you've got it, you really don't want to be without it. But there's the question of price. This is not a cheap, casual buy at £79.99. Would I buy it? To put it simply, with my current finances, I can't afford to, but it's one of the top contenders for heading up the wish list.

The software's easy to install, the hardware's a cinch, and once you've tried it, you won't want to go back. And at the moment, it's the only one available, so it definitely earns a "best buy" award if you happen to have the spare cash.

### Figure 1

To give an idea of the range of resolutions available, a view of your options with the SM144. Each different screen type has a different set of options.

| Resolution | Vertical Refresh Rate | Horizontal Frequency |
|---|---|---|
| 640 x 480 | 70Hz | 35kHz |
| 768 x 496 | 69.5Hz | 35.7kHz |
| 896 x 496 | 69.5Hz | 35.7kHz |
| 1024 x 768 | 71.5Hz interlaced | 35.5kHz |

Product:.......... Screenblaster
Price:................. £79.99
Supplier:.......... COMPO Software Ltd.
7 Vinegar Hill
Alconbury Weston
Huntingdon
Cambs. PE17 5JA
Tel:.................... 0480 891819

# Falcon Forum

*All readers' letters that deal exclusively with Falcon-related matters are now printed on these pages. The layout is similar to the standard Forum pages - see p.39 for key.*

## NEWDESK.INF

**I** The NEWDESK.INF configuration file has a lot more control of the Falcon's hardware than DESKTOP.INF ever did on the ST. The CPU cache and screen modes (including number of colours, overscan, interlace/double line and number of columns) can all be controlled by changing parts of the #E line.

#E 10 14 00 0a 0b cd 00 00 00 00

The lower case letters represent the cache and screen control bytes. The first four bytes are used to set various desktop options such as type file sort or icon/text display, etc.

***CPU Cache***

Byte a If bit 2 is set then the CPU cache is switched on. (Bit 3 is also used by the desktop, if it is set then Size to Fit is on.)

***Interlace/Double Line***

Byte b If bit 1 is set then double line is set on VGA modes and interlace is set on TV modes.

***Overscan & Monitor Type***

Byte C If bits 1 & 2 are set, VGA screen is set (i.e. this byte = 3).

If bit 2 is set and bit 1 is not, TV screen is set (i.e. this byte = 2).

If bit 3 is also set for either of these screens, overscan is set (i.e. this byte = 7 for overscan VGA and = 6 for TV overscan).

***Colour & Columns***

Byte d The lowest 3 bits control the number of colours, they form a 3 bit binary number. If this number equals zero then the 2 colour screen is set; incrementing it gives the other screen colour modes (= 1 gives 4 colours, = 2 gives 16, = 3 gives 256 and = 4 gives True Colour). If bit 4 is also set then the screen will have 80 columns instead of 40.

In all the cases above, bit 1 is the LSB.

For the less technical Falcon owners, the following tables show the actual values for various screens.

| | | | | | |
|---|---|---|---|---|---|
| **TV (bytes cd)** | 2 | 4 | 16 | 256 | True Colour |
| 40 Columns | 20 | 21 | 22 | 23 | 24 |
| 80 Columns | 28 | 29 | 2A | 2B | 2C |
| **TV + Overscan (cd)** | 2 | 4 | 16 | 256 | True Colour |
| 40 Columns | 60 | 61 | 62 | 63 | 64 |
| 80 Columns | 68 | 69 | 6A | 6B | 6C |
| **VGA (cd)** | 2 | 4 | 16 | 256 | True Colour |
| 40 Columns | NA | 31 | 32 | 33 | 34 |
| 80 Columns | 38 | 39 | 3A | 3B | NA |
| **VGA + Overscan (cd)** | 2 | 4 | 16 | 256 | True Colour |
| 40 Columns | NA | 71 | 72 | 73 | 74 |
| 80 Columns | 78 | 79 | 7A | 7B | NA |

NA indicates that these modes are not possible on a VGA - the desktop won't allow you to set them, but I haven't experimented).

Overscan does not work on my SVGA monitor. What happens is that the desktop begins in the middle of the screen and gets wrapped around (off the right hand side and back on the left) and overlaps the start of the picture (which, incidentally, is exactly the same as running my VGA off the video connector without M0 grounded).

The compatibility screen modes can also be set from NEWDESK.INF. but they are more complicated. Overscan in these modes appear to do nothing, but if you change to a Falcon mode afterwards that screen will be overscanned.

| Compatibility (0b cd) | TV | TV + Overscan | VGA |
|---|---|---|---|
| ST Low | 00 A2 | 00 E2 | 01 B2 |
| ST Medium | 00 A9 | 00 E9 | 01 B9 |
| ST High | 01 A8 | 01 E8 | 00 B8 |

This is an example of a typical #E line; it switches on the cache (06 - which includes setting the Size to Fit menu option) and 16 colours with 80 columns on a VGA.

#E 10 14 00 06 00 3A 00 00 00 00

If you use a TV NEWDESK.INF on a VGA or vice versa, the Falcon appears to cope and switches to the nearest equivalent screen mode.

For those of you using FBOOT which writes a boot sector to a floppy and enables switching various things on/off, it will not control your CPU cache if you have a NEWDESK.INF in the root directory of your boot disk.

I would like to see someone use the information above to write a boot program like Superboot, but with the ability to change a NEWDESK.INF file so that any screen mode can be set up on booting. I might get around to doing it myself, but not for a while (next summer).

PS. Does anyone know what the #Q line does? Mine never seems to change!

**Phil Hodgkins**

# Monitor Life Preserver

*This is the first in a series of articles that will cover the development of a screen saver accessory. It will cover the basics of creating accessories, handling dialogs, hooking into the system to do the screen saving, mouse hot spots and hot keys, and writing the screen-saving animation itself. Don't panic, I won't try to cover it all in one go; that's why this is a series of articles.*

*This month I'll cover the basics of accessories - everything you need to know to get an accessory up and running in assembly language.*

*To provide some background on my programming experience, I've been working with STs for only five years. In the past eighteen months I've released a number of programs, including DMJ GIF and Sound Lab, and the Boink & Faze screen savers featured on the August 1992 Atari ST User cover disk.*

*Damien M. Jones*

### *Why Assembly Language?*

I've been asked to do all kinds of things as screen savers, but I rejected most of those ideas because they break the first two rules of screen savers (see "Rules for Screen Savers" box). Screen savers have to be small and they have to be fast; assembly fits both of these requirements. (The third rule is not affected by the choice of language.)

In addition to being compact and efficient, it is simpler with assembly language to do all the mucking about with interrupts and such that screen savers need. For this project I will be using DevPac 3, which I have just bought; those of you who have used the package will probably know more about it (and its debugger) than I do, so please bear with me.

### *Why an Accessory?*

It is quite easy to write a screen saver as an AUTO folder program; I know because this is how I wrote the original Boink, Faze, and Moire screen savers. It's easier because there are fewer details to take care of than when writing accessories. But occasionally users like to twiddle with the settings for screen savers, and it's easier to do this with an accessory (from the user's point of view, anyway). Later, as the options for this screen saver are expanded, the reasons for using an accessory will be more obvious.

### *Let's Get Started*

To begin with, writing accessories is just a bit different from writing a normal application or utility. There are some extra things that need to be done, and some things that should not be done.

The first thing to do is relocate the stack. Normally in the same chunk of code you'd release unused memory back to GEM; for accessories, this isn't necessary. Don't try it. Also don't try to get the basepage address from the stack; the stack pointer isn't set properly for accessories.

The next thing to do is clear some fields in the AES global array, as you would for a normal application. This is one of the arrays the AES uses to keep track of various pieces of information; for the most part, it's not worth messing with. It is worth taking the trouble to clear out the fields, though.

Then the program does an appl_init AES call. What this does is notify the AES that this is a GEM application, and that various AES calls will be made. The AES then assigns the program an "application ID", which is used later in some AES calls. For normal applications, this ID is zero; the accessory checks for this (and also for negative numbers, which mean errors) and exits via a pterm0 GEMDOS call in case of a problem. (For details on calling the AES, see the "Calling the AES" box and Listing 1.)

If the application ID is greater than zero, the program attempts to "register" the accessory with the menu_register AES call. This just places a menu item in the "Desk" menu of the desktop so that the user has something to select. While technically it is possible that this will return an error (in case the user has put more than six accessories on their boot disk) I didn't bother to check for it, since it doesn't make a scrap of difference one way or another. If an accessory tries to terminate (with a pterm or pterm0) the system does a wonderful crash, so I might as well let the accessory remain in memory and act stupid.

Once the accessory has been registered, there is nothing else to do but wait for the user to select it. This is accomplished with the evnt_mesag AES call, which does nothing more than return control of the computer back to the AES until some message arrives for the accessory. The evnt_mesag call will not return until a message is available.

Once it does return, though, it means a message is present in the message buffer. The only message we're interested in for the moment is 40, which is the code to indicate an accessory was accessed. According to specifications, the menu ID of the selected accessory is also stored in the message buffer, so the accessory should check it to be sure. If the message isn't 40, or if it isn't for our accessory, the program goes back to waiting.

If the message is for our accessory, it should do something to let us know it got the message. In this case, it just pops up an alert box telling us that the accessory does nothing. How helpful. Later we'll do something useful.

### *Odd things about accessories*

You've probably noticed that the only way this program exits is if it isn't run as an accessory. Once in the accessory mode, so to speak, it just goes round in circles, waiting for messages. As mentioned above, if an accessory does exit, it will crash the system.

When the user changes the resolution of the computer, the accessories are reloaded. Later when we add "teeth" to the accessory there will be other things to take care of, but for now this accessory works, and it does everything it's supposed to (nothing).

The entire accessory is shown in Listing 1. My assembly programming style definitely shows my long training in high-level languages, as you can see. It will assemble with DevPac; other assemblers may need to change the "section" statements.

### *Next Month*

We'll add a configuration dialog and show how to handle a complex dialog. This is both harder and easier than it seems!

## *Calling the AES from Assembly*

The Application Environment Services (AES) were not designed to be called from assembly programs; they were made for high-level languages such as C or BASIC. While difficult, sometimes it is necessary to use the AES from assembly.

The first step is to make space in your program for the AES arrays. There are seven of these: the AES parameter block, and the control, global, int_in, int_out, addr_in, and addr_out arrays.

The AES parameter contains nothing more than the addresses of the other six arrays. The easiest way to set this array up is to put it in the data section of the program, using the labels of the other arrays as constants. This way, when the program loads, TOS will relocate those addresses along with all the other labelled references; TOS and the assembler do all the work for you. (The diagram shows the relationship between and purposes of the arrays.)

The control array consists of just five words. The first is the function number. The last four are the number of parameters stored in the int_in, int_out, addr_in, and addr_out arrays, respectively. The number of parameters is predefined for each AES call, but each call is different. Rather than re-create the control array, I set up a different one for each AES function used. Then instead of filling in numbers in the same array each time, I can just change the pointer to the control array in the AES parameter block to point to the new control array. It's faster, and it actually saves memory.

The int_in and addr_in arrays are used to pass integers (words) or addresses (longs) as parameters. Different AES functions use different numbers of parameters in these. The int_out and addr_out arrays are used to store returned values.

The global array is used to store some information that the AES may or may not need for any given AES function. Before calling any AES function, the last five entries in this table should be cleared (but only before calling AES functions; after the first one, leave it alone).

To actually make an AES call, first set up the control, int_in, and addr_in arrays. Then put 200 in d0 and the address of the AES parameter block in d1, and do a trap #2. You should assume all registers are trashed. Usually an error code (if any) is returned in the first word of the int_out array; other output parameters may be returned, depending on the function.

Calling the VDI is done in a similar fashion, but the function number in d0 is different and the format of the VDI parameter block doesn't match that of the AES one. Since the VDI isn't used for the screen saver accessory, I won't go into further detail here.

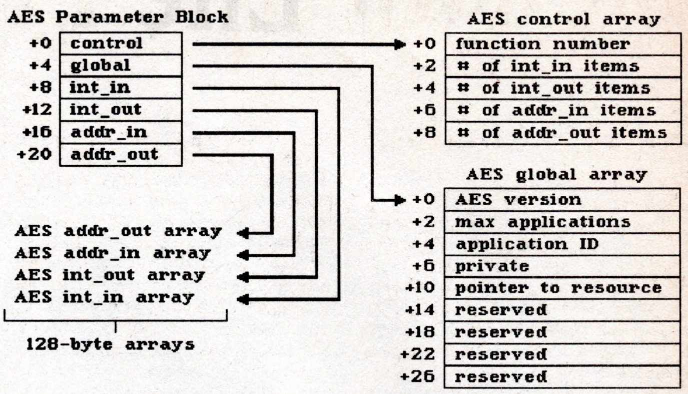
## Three Rules for Screen Savers

**1. A screen saver should take as little memory as possible.** Obviously any fancy screen saver is going to take a nice chunk of memory (usually at least 32K) but beyond that attempts should be made to keep it small! The Boink screen saver uses about 43K, which is a bit hefty. Using large images or lots of them eats up memory very quickly.

**2. A screen saver should take as little processor time as possible.** It's nice that the computer can continue to operate even while the screen saver is active, but I have seen screen savers that slow the computer down to a crawl when they activate. For this reason I suggest that a 25% slow down be about the limit of tolerance. Faster machines affect slow down times, of course.

**3. A screen saver should leave no static images on the screen.** The intent of a screen saver is to prevent a static image from burning into the monitor; if you replace one static image with another, what have you gained?

## AES Arrays



Each of the arrays used by the AES holds a different type of information. This diagram shows you how they're linked together.

```
*---------------------------------------*
*                                       *
*       Screen Saver Accessory          *
*       Part 1: Accessory Frame         *
*                                       *
*---------------------------------------*

*       I'd put equates and such here, but there aren't any yet.

*       Notice that I don't use includes--not everyone will be
*       using Devpac.  I also prefer to be able to see all the
*       details without having to go hunting for them in an
*       include file!

*       If you're tinkering, don't forget to enable your debugging
*       options--but this is an accessory, so you'll probably find
*       a resident debugger useful.

*-------------------------------*
*       Main program starts.    *
*-------------------------------*
        text

        lea stack,a7            ; Relocate stack pointer.

*       Now set up for accessory.

        bsr clear_aes           ; Clear stuff in global array.

        bsr appl_init           ; Do AES appl_init.
        tst.w d0                ; Error?
        ble exit                ; Negative is error, 0 is not ACC--exit!
        move.w d0,ap_id         ; Else save application ID.

        pea menu_item           ; Address of menu item.
        bsr menu_register       ; Register accessory in Desk menu.
        addq.l #4,a7            ; Adjust stack.
        mcve.w d0,menu_id       ; Save menu ID.

*       Now wait for a message.

wait    pea aes_msg             ; Address of AES message buffer.
        bsr evnt_mesag          ; Wait for AES message.
        addq.l #4,a7            ; Adjust stack.

        cmp.w #40,aes_msg       ; Is it an "activate accessory" message?
        beq go_acc              ; Yes, let's do something.

        bra wait                ; Else go back and wait some more.

*       Accessory was activated.

go_acc  move.w aes_msg+8,d0     ; Get ap_id of activated accessory.
        cmp.w menu_id,d0        ; Activated this accessory?
        bne wait                ; Nope, wait for another message.

        pea go_alert            ; Address of alert box string.
        move.w #1,-(a7)         ; Default button.
        bsr form_alert          ; Do alert.
        addq.l #6,a7            ; Adjust stack.

        bra wait                ; Now go back and wait.
```

```
*       Error--cannot install accessory.

exit    clr.w -(a7)                     ; pterm0
        trap #1                         ; GEMDOS(0)

*-------------------------------*
*       Subroutines...          *
*-------------------------------*

*       Clear AES global array before doing any AES stuff.

clear_aes
        clr.l ap_ptree                  ; Pointer to resource stuff.
        clr.l ap_1resv                  ; Reserved for use by TOS--don't mess!
        clr.l ap_2resv
        clr.l ap_3resv
        clr.l ap_4resv

        rts

*       appl_init AES call--initialize application for use with AES.
*       Returns the application id in d0.

appl_init
        move.l #p_appl_init,aes_pb ; Address of new control array.
        bra aes                         ; Do AES and return.

*       menu_register AES call--register accessory in Desk menu.
*       Address of menu text should be on the stack.
*       Returns the menu id in d0.

menu_register
        move.l #p_menu_register,aes_pb ; Address of new control array.
        move.w ap_id,int_in             ; Application ID.
        move.l 4(a7),addr_in            ; Address of menu text (from stack).
        bra aes                         ; Do AES and return.

*       evnt_mesag AES call--wait for an AES message.
*       Address of the message buffer should be on the stack.
*       Returns junk in d0.

evnt_mesag
        move.l #p_evnt_mesag,aes_pb ; Address of new control array.
        move.l 4(a7),addr_in            ; Address of message buffer.
        bra aes                         ; Do AES and return.

*       form_alert AES call--do an alert box.
*       6(a7)   Address of alert box string.
*       4(a7)   Default button.
*       Returns selected button in d0.

form_alert
        move.l #p_form_alert,aes_pb ; Address of new control array.
        move.w 4(a7),int_in             ; Default button.
        move.l 6(a7),addr_in            ; Alert box string.
        bra aes                         ; Do AES and return.

*       Call the AES--arrays must be set up before calling this!

aes     movem.l d0-d7/a0-a6,-(a7) ; Save all registers.
```

```
        move.w #200,d0          ; AES function number.
        move.l #aes_pb,d1       ; Address of AES parameter block.
        trap #2                 ; Call GEM.

        movem.l (a7)+,d0-d7/a0-a6 ; Restore registers.
        move.w int_out,d0       ; Get error code/result.
        rts                     ; All done.


*-------------------------------*
*       Fixed data section.     *
*-------------------------------*

        data

*       AES parameter block.  This gives TOS the addresses of the
*       other arrays.  Nice for C, a pain for assembly.

aes_pb          dc.l 0,global,int_in,int_out,addr_in,addr_out

*       AES function control arrays.  The address of one of these
*       arrays replaces the address of the control array (first array
*       in aes_pb, listed above as zero since it gets replaced!)
*       The first item is the AES opcode, the other four are the
*       number of parameters in the int_in, int_out, addr_in, and
*       addr_out arrays.

p_appl_init     dc.w 10,0,1,0,0
p_menu_register dc.w 35,1,1,1,0
p_evnt_mesag    dc.w 23,0,1,1,0
p_form_alert    dc.w 52,1,1,1,0

*       Miscellaneous text data.

menu_item       dc.b '  STA ScreenSaver  ',0
go_alert        dc.b '[3][| This accessory | | does nothing. ][   Yet!   ]',0
```

```
        even

*-------------------------------*
*       Variables section.      *
*-------------------------------*

        bss

global
ap_version      ds.w 1          ; Global array, used by the AES for
ap_count        ds.w 1          ; various things.  Basically, don't
ap_id           ds.w 1          ; worry about what's in here, it isn't
ap_private      ds.l 1          ; important at the moment.
ap_ptree        ds.l 1
ap_lresv        ds.l 1
ap_2resv        ds.l 1
ap_3resv        ds.l 1
ap_4resv        ds.l 1

*       AES arrays.

int_in          ds.w 128        ; INTIN array--word-size inputs.
int_out         ds.w 128        ; INTOUT array--word-size outputs.
addr_in         ds.l 64         ; ADDRIN array--address inputs.
addr_out        ds.l 64         ; ADDROUT array--address outputs.

*       Other AES variables.

menu_id         ds.w 1          ; Menu ID (for accessory).
aes_msg         ds.w 16         ; AES message buffer.

*       A little stack space...

                ds.l 64         ; It's not much, but it will do.

stack
```

# X-Debug

**Advanced Debugger for Atari ST/TT computers**

X-Debug is an advanced debugger for the Atari range of computers. It is both a low-level debugger, showing memory dumps and register contents, and also a medium-level debugger, understanding about certain high-level languages and allowing source display single-step, and local variable access, for example.

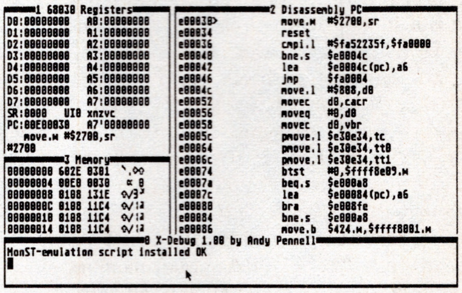
The best support is for Lattice C, as that is the only compiled language that outputs full debug information, but it also supports line-number debug (as created by HiSoft Basic and Devpac 3), and symbol-only debug (usable with virtually all ST compilers).

Crucial to the whole debugger is the X-Debug language. This is a simple yet powerful script type language that allows complex operations to be built up from a sequence of standard operations. It supports a full expression evaluator, aliases, and procedures with parameters. It is also an important factor in customising the user interface, allowing specific commands to be attached to particular keypresses.

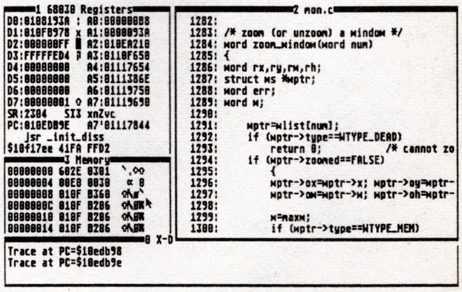
X-Debug runs on STs and TTs with any monitor type. One megabyte of RAM is recommended, and TOS 1.4 or later avoids problems with larger programs. Written by Andy Pennell, the creater of MonST.

**£24.95**

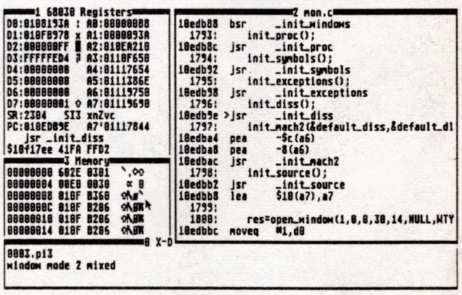
**The ST Club**
2 Broadway
Nottingham
NG1 1PS



```
1 68030 Registers                 2 Disassembly PC
D0:00000000   A0:00000000   e00030>   move.w   #$2700,sr
D1:00000000   A1:00000000   e00034    reset
D2:00000000   A2:00000000   e00036    cmpi.l   #$fa52235f,$fa0000
D3:00000000   A3:00000000   e00040    bne.s    $e0004c
D4:00000000   A4:00000000   e00042    lea      $e0004c(pc),a6
D5:00000000   A5:00000000   e00046    jmp      $fa0004
D6:00000000   A6:00000000   e0004c    move.l   #$808,d0
D7:00000000   A7:00000000   e00052    movec    d0,cacr
SR:0000   UI0 xnzvc         e00056    moveq    #0,d0
PC:00E00030   A7'00000000   e00058    movec    d0,vbr
   move.w #$2700,sr         e0005c    pmove.l  $e30e34,tc
#2700                       e00064    pmove.l  $e30e34,tt0
3 Memory                    e0006c    pmove.l  $e30e34,tt1
00000000 602E 0301  `.∞     e00074    btst     #0,$ffff8e09.w
00000004 00E0 0030   ∝ 0    e0007a    beq.s    $e000a8
00000008 0108 131E          e0007c    lea      $e00084(pc),a6
0000000C 0108 11C4          e00080    bra      $e008fe
00000010 0108 11C4          e00084    bne.s    $e000a8
00000014 0108 11C4          e00086    move.b   $424.w,$ffff8001.w
0 X-Debug 1.00 by Andy Pennell
MonST-emulation script installed OK
```



```
1 68030 Registers             2 mon.c
D0:0108193A : A0:000000B8      1282:
D1:010FB978 x A1:0000093A      1283: /* zoom (or unzoom) a window */
D2:000000FF   A2:010EA210      1284: word zoom_window(word num)
D3:FFFFFED4   A3:0110F650      1285: {
D4:00000000   A4:01117654      1286: word rx,ry,rw,rh;
D5:00000000   A5:0111386E      1287: struct ws *wptr;
D6:00000000   A6:01119750      1288: word err;
D7:00000001   A7:01119690      1289: word w;
SR:2304   SI3 xnZvc            1290:
PC:010EDB9E   A7'01117844      1291:     wptr=wlist[num];
   jsr _init_diss              1292:     if (wptr->type==WTYPE_DEAD)
$10f17ee 41FA FFD2             1293:         return 0;            /* cannot zo
3 Memory                       1294:     if (wptr->zoomed==FALSE)
00000000 602E 0301  `.∞        1295:         {
00000004 00E0 0030   ∝ 0       1296:         wptr->ox=wptr->x; wptr->oy=wptr-
00000008 010F B360             1297:         wptr->ow=wptr->w; wptr->oh=wptr-
0000000C 010F B286             1298:
00000010 010F B286             1299:         w=maxw;
00000014 010F B286             1300:         if (wptr->type==WTYPE_MEM)
0 X-D
Trace at PC=$10edb98
Trace at PC=$10edb9e
```



```
1 68030 Registers             2 mon.c
D0:0108193A : A0:00000088     10edb88  bsr     _init_windows
D1:010FB978 x A1:0000093A       1793:     init_proc();
D2:000000FF   A2:010EA210     10edb8c  jsr     _init_proc
D3:FFFFFED4   A3:0110F650       1794:     init_symbols();
D4:00000000   A4:01117654     10edb92  jsr     _init_symbols
D5:00000000   A5:0111386E       1795:     init_exceptions();
D6:00000000   A6:01119750     10edb98  jsr     _init_exceptions
D7:00000001   A7:01119690       1796:     init_diss();
SR:2304   SI3 xnZvc           10edb9e >jsr     _init_diss
PC:010EDB9E   A7'01117844       1797:     init_mach2(&default_diss,&default_dl
   jsr _init_diss             10edba4  pea     -$c(a6)
$10f17ee 41FA FFD2            10edba8  pea     -8(a6)
3 Memory                      10edbac  jsr     _init_mach2
00000000 602E 0301  `.∞         1798:     init_source();
00000004 00E0 0030   ∝ 0      10edbb2  jsr     _init_source
00000008 010F B360            10edbb8  lea     $10(a7),a7
0000000C 010F B286              1799:
00000010 010F B286              1800:     res=open_window(1,0,0,30,14,NULL,WTY
00000014 010F B286            10edbbc  moveq   #1,d0
0 X-D
0003.pi3
window mode 2 mixed
```

# UPDATE

Version 13.8 ~ November 1993

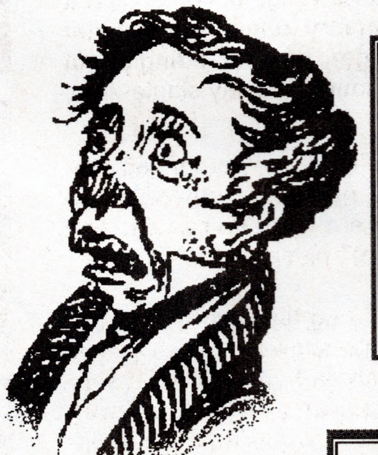
## Clip Art

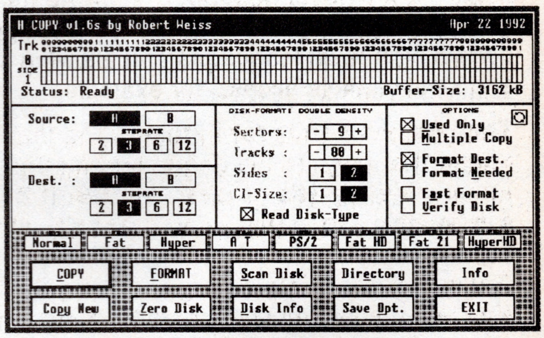
**SSM.124 and SSM.125: Seymour's Sketches:** Clip Art disks. Scanned from humorous illustrations printed in 'Seymour's Sketches' published during the 1860's. This was a reprint of an earlier publication 'Sketches by Seymour'. Robert Seymour (1800-1836) is best known as the first illustrator of Charles Dickens' 'Pickwick Papers'.

## ST Club Disk Mags

**DMG.36:** 1ST_CVRT - converts ASCII files into a form usable with 1st Word. **ATOM36** - Atomik Cruncher - compresses all types of files. **BATTACH** - forces ST to recognise drive B if it was switched on after the computer. **DCX_PLUS** - Extracts files from ARC, LZH, ZOO and ZIP archives. **EDITH** - well featured text editor/wp. **FATSAVE** - saves disk FATs to aid recovery of accidentally deleted files. **FRACTGEN** - Fast fractal generator for ST and Falcon. **IMG_0300** - GDOS driver that sends output to a 300-dpi IMG file. **MNILU** - compiler for GFA Basic version 2 files. **MSPECTRA** - Midi monitor that gives a visual representation of all notes being played across all 16 MIDI channels. **NAMEGRAM** - Name anagram generator. **NC_MONO** - Installs a bootsector that will run a mono emulator at boot up. **PSYCHO** - colour modulate low res pictures with MIDI input. **RAMWORLD** - 3D object creator and viewer, use for 3D games or deigning a new kitchen! **SQUARES** - Screen saver that rotates portions of the screen. **STS20** - director and file management tool. **UNDELETE** - quick and easy way of recovering files from ST disks. **WRAPPER** - very small mouse doubler. **XLATOR** - language translation system, includes German to English dictionary.

**DMG.37: ACCENT2A** - German utility to add accented characters within most programs. **ADDBOOK** - ACC address book. **BILD TOOL** - neat screen saver with animations. **CFN ART** - couple of CFN font files containing clip art of Baloons and Borders. **CFNTODMF** - Converts calamus CFN fonts into PageStream DMF format. **EDISON** - Utility ACC with screensaver, item selector, and mouse accelerator. **EPSXCVG** - Converts between EPS and CVG graphic file formats. **EVEREST 15B** - English translation of this neat and quick text editor. **GENETICS** - shows how small cumulative changes to a limited number of 'genes' can result in quite diverse forms. **GFA_COL** and **GFA_COL2** - GFA Basic files for column in issues 34 and 35 of ST Applications. **HCOPY16S** - very good disk copier/formatter that supports HD disks. **HOTSPEED** - Toggle Mega STE between 8MHz and 16MHz when applications are running. **HPJ2PS** - Converts output intended for HP LaserJet printers into a PostScript file. Written for use with Cubase, but should work with any application that has a LaserJet driver. **LABELPRT** - Label printing program that uses printers built in fonts. Comes with drivers for Epson LQ and HP Deskjet. **PFORUM** - Programmers' Forum listings from issues 34 and 35 of ST Applications. **POSTCODE** - Gives town name for a given postcode. **SAFE MENU** - Mac style pull-down menus, or make menus appear only with a right click or when the cursor moves into the top half of the menu bar. **SEEKUP** - initialize the TOS 2.06 Floppy BIOS routines to prevent doubling the seek rate (this causes quite annoying grinding noises on a non-HD-floppy). **SOX5** - translates sound samples between different file formats and performs various sound effects. Understands "raw" files in various binary formats, SoundBlaster .VOC files, IRCAM





H COPY v1.6s by Robert Weiss    Apr 22 1992

Status: Ready    Buffer-Size: 3162 kB

Source: A    STEPRATE 3

Dest. : A    STEPRATE 3

DISK-FORMAT: DOUBLE DENSITY

Sectors: 9

Tracks : 80

Sides : 2

Cl-Size: 2

☒ Read Disk-Type

OPTIONS

☒ Used Only

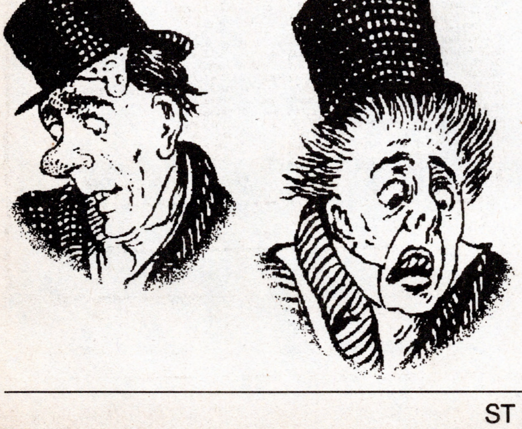
☐ Multiple Copy

☒ Format Dest.

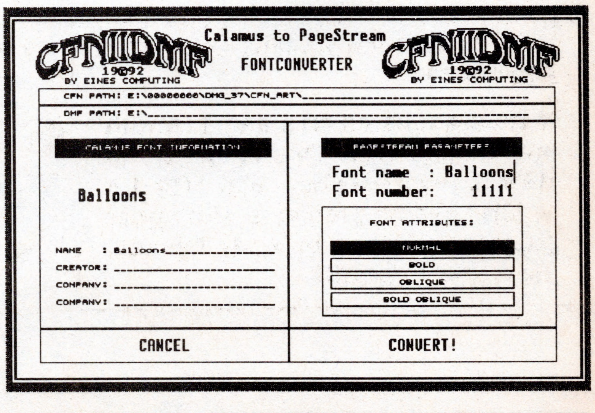
☐ Format Needed

☐ Fast Format

☐ Verify Disk



◁ Seymour's Sketches on SSM.124 and 125



Calamus to PageStream

FONTCONVERTER

CFN PATH: E:\00000000\DMG_37\CFN_ART\

DMF PATH: E:\

CALAMUS FONT INFORMATION

Balloons

NAME : Balloons

CREATOR:

COMPANY:

COMPANY:

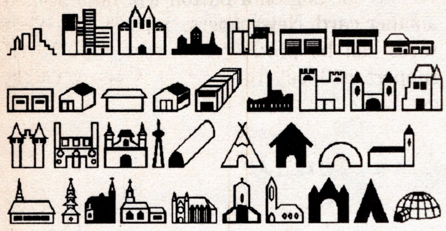
PAGESTREAM PARAMETERS

Font name : Balloons

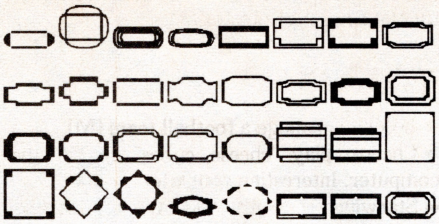
Font number: 11111

FONT ATTRIBUTES: NORMAL

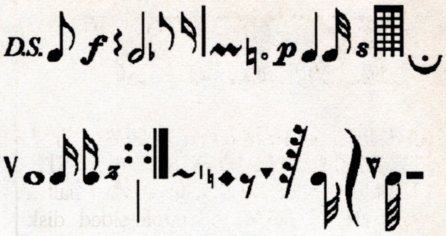
▷ DMG.37



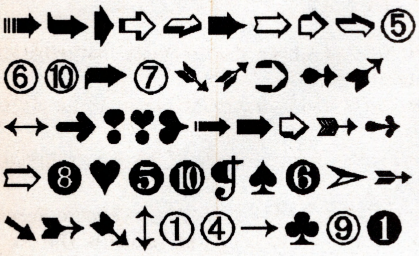
Arches



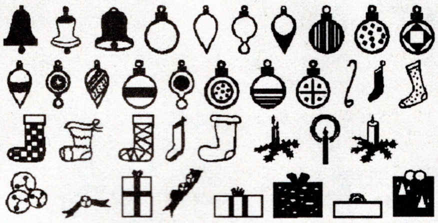
Borders



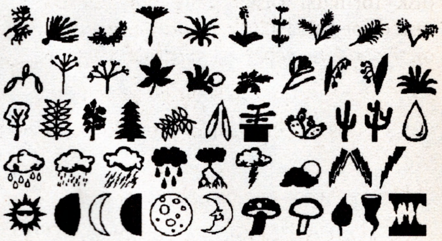
Music



Dixieland



Festive



Nature

## Mini 'Clip Art' Calamus Fonts on FON.159

SoundFile files, SUN Sparcstation .au files, mutant DEC .au files, Amiga/SGI AIFF files, Macintosh HCOM files, Sounder files, and Soundtool (DOS) files. **ST_CABAL** - monochrome solitaire. **ST_MHZ** - Set Mega STE speed. **S_SAVER** - source codes to go with the Monitor Life Saver series of articles in ST Applications issue 35 and 36. **WINLUPE** - magnifying glass for your monitor.

### *Fonts*

**FON.159: CFN ART** - lots of mini clip art items stored as characters in Calamus fonts. Ideal for use with Calamus or Didot, or use C-Font or Fontkit Plus to use them as bit-mapped characters in packages such as Timeworks and Easy Text Plus. The font files are: Arch, Arfilled, Arrowsot, Balloons, Borders, Bordorna, Digelec, Dixiland, Festive1, Food, Furn, Hygiene, Medical, Musical2, Nature, Shapes2D, Shapes3D, Signsymb, Sportfig, Sporthob, Starsfil, Toolgard, and Transpo.

### *Games*

**GAM.231 and GAM.232: GRANDAD 2:** Part two of this innovative graphic adventure. Lots of nice touches of humour.

### *Information*

**INF.70: STENN Issue 14B:** Not a regular issue, this is a collection of witty, amusing articles and lists. Everything from 'An alphabetical listing of quotes and funnies for (button) badges' to 'British woodlands from prehistoric times to the present day'.

**INF.71: MAGGIE 12:** They're back. Enthusiastic and scurrilous disk magazine for ST and Falcon owners. As usual there is a fair helping of bad language. Includes selection of demos and utilities for the Falcon030, including Backwards - the ST emulator for the Falcon.

### *Programming*

**LAN.149 and LAN.150: DSP Assembly** language routines.

**LAN.151 and LAN.152:** This is a large subset of GNU C version 1.36 configured for an Atari ST(E) with 2.5MB or more, but no hard disk is needed. It works by packing the executables to about half their normal size and running them, along with the headers and libraries, from a ramdisk.

### *MIDI*

**MID.86: OMEGA II:** Demo version of Dr T's latest MIDI Composition System.

## "ST COMPUTER"

### *German PD and Shareware Disks*

*The following disks have been compiled by ST Computer magazine in Germany. Most of the programs run in mono and the programs and documentation are usually supplied in German only.*

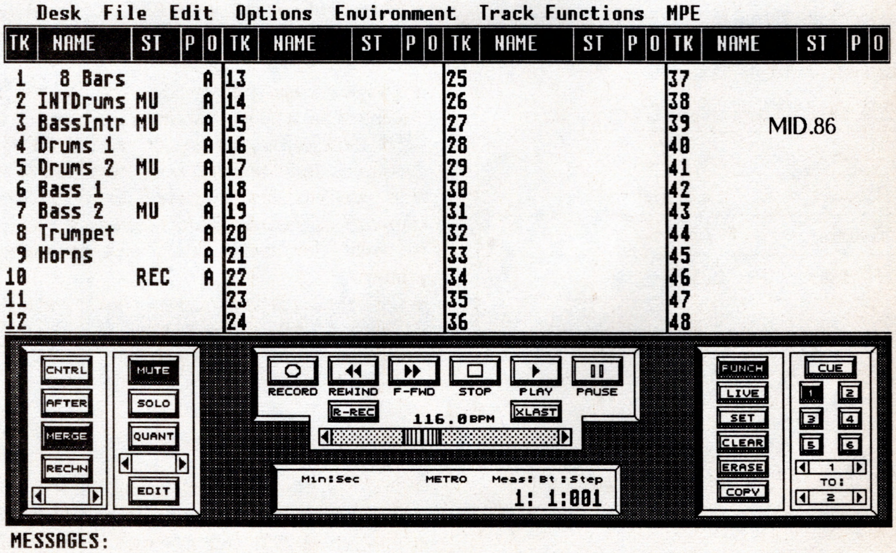
### *STC.456*

➡ Slide show: supports many different formats.

➡ MagicView: Effective slide show with many overlay effects. (M)

➡ Vital: Nutritional values of around 80 foodstuffs - proteins, unsaturated fats, minerals and vitamins.

➡ Turmite: display of 2D machines. Features:



MID.86

Desk File Edit Options Environment Track Functions MPE

| TK | NAME | ST | P | O | TK | NAME | ST | P | O | TK | NAME | ST | P | O | TK | NAME | ST | P | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 8 Bars | | | A | 13 | | | | | 25 | | | | | 37 | | | | |
| 2 | INTDrums | MU | | A | 14 | | | | | 26 | | | | | 38 | | | | |
| 3 | BassIntr | MU | | A | 15 | | | | | 27 | | | | | 39 | | | | |
| 4 | Drums 1 | | | A | 16 | | | | | 28 | | | | | 40 | | | | |
| 5 | Drums 2 | MU | | A | 17 | | | | | 29 | | | | | 41 | | | | |
| 6 | Bass 1 | | | A | 18 | | | | | 30 | | | | | 42 | | | | |
| 7 | Bass 2 | MU | | A | 19 | | | | | 31 | | | | | 43 | | | | |
| 8 | Trumpet | | | A | 20 | | | | | 32 | | | | | 44 | | | | |
| 9 | Horns | | | A | 21 | | | | | 33 | | | | | 45 | | | | |
| 10 | | REC | | A | 22 | | | | | 34 | | | | | 46 | | | | |
| 11 | | | | | 23 | | | | | 35 | | | | | 47 | | | | |
| 12 | | | | | 24 | | | | | 36 | | | | | 48 | | | | |

116.0 BPM

Min:Sec METRO Meas: Bt :Step 1: 1:001

MESSAGES:

# KEY

All disks should run on an Atari ST, STM, STF, STFM, STE, Mega ST, Mega STE, TT, Stacy or ST Book with at least half a megabyte of RAM, a double-sided disk drive and a mono or colour display - unless the disk description advises otherwise. We no longer support single-sided disk formats. Disks have not yet been tested for Falcon030 compatibility - details on this will be reported in future Updates.

**(M)** - Runs in High Resolution Mono.

**(C)** - Runs in Medium or Low Resolution Colour.

**(1Meg)** - Needs one megabyte of RAM.

**(Not TOS1.6)** - Will not run under TOS 1.6 (STe) or TOS 1.4.

**($ )** - source code included.

**($C)** - C language.

**($ASM)** Assembler.

**(F)** - Falcon required.

**Copyright:** To the best of our knowledge everything on the disks in this catalogue may be freely distributed. If you know otherwise please let us know and the offending software will be immediately withdrawn.

This catalogue is originated and copyright the ST Club.

© 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993 The ST Club. All rights reserved.

# Ordering Details

Please note that we do not accept orders by credit card. Orders accompanied with a cheque or postal order are dispatched by 1st Class post on the day we receive them.

All PD disks are copied onto high quality disks from known manufacturers. The price you pay us for PD disks covers only the costs of acquisition, duplication, cataloguing and distribution.

*PD and Shareware Disk Prices*

| | |
|---|---|
| Each | £1.25 |
| Handling | £1.25 flat rate |
| 5 disks | £7.50 |
| 10 disks | £13.75 |

***Licenceware disks cost £2.75.***

**All prices include VAT, packing and 1st Class post.**

**The Order Form for these disks is on Page 57**

inbuilt editor, fast assembler routines, zoom function on single pixels. (M)

## *STC.457*

➡ Football: manage a football team (M)
➡ Cheese: play 'cheese cubes' against the computer. Interesting computer version.
➡ Starwing: economy and strategy simulation in the universe. Discover new or uninhabited planets. Strategy, navigation and economy knowledge needed. (M)

## *STC.458*

➡ HPGL-Driver: driver for HPGL plotter under GDOS. The driver uses many of the inbuilt features of the plotter, saving time.
➡ Multifont: installs fonts as required. New interface, colour resolution, Word Plus format, print codes, clipboard, etc. ACC version for background printing available.
➡ Xedit 1.5: editor, improved version. Small font allows overview of wide and long texts, eg assembler. May be attached to a shell.

## *STC.460 Game*

➡ Formula 1: Entertaining simulation of Formula 1. You take over the management of a team and try to win the World Title against nineteen others. (M)

## *STC.462 Game*

➡ Spacola: space game. Play a commercial traveller who must pit himself against numerous space pirates and bring the goods safely to the space station. Special effects, brilliant graphics and sampled sounds.

## *STC.463 Database*

➡ AManager: catalogues audio and video media. Searches music titles and the relevant albums, prints lists, labels. Printer configuration. <bullet2>Med-Easy: Conversion program for literature database Medline to Easybase.

## *STC.464 Utilities*

➡ MicroShell: shell for LHARC. Compresses and de-compresses with full folder structure.
➡ LHARC: Version 2.01d.
➡ Key-Desktop: enables the use of menu items via the keyboard (from TOS 1.0).
➡ HP-DeskJet: hard copy driver for HPDJ. Numerous functions and good interface. Picture contents can be saved as IMG files (supports clipboard). Resident program.
➡ Power Hardcopy: Prints pics on many printers
➡ Cookie Inf: displays current cookie jars.
➡ Diskstat: displays the state of attached drives.
➡ Fast-CMP: compiler shell for GFA-Basic.

## *STC.465 Various*

➡ VG8 1.0: powerful variation of '4 wins'.
➡ Ask me 3.0a: supports the hierarchical connection of text and graphics (datacards) so that clicking on a button will take you to another card. Newspapers, quizzes or adventures can be produced in this way. Music support and eay-to-use editor for creating cards. With many examples.

## *STC.466 DFU*

➡ Q-Mail-Mini: abbreviated version of Quark-Mailbox, with all important features of the full version. Not networkable.

## *STC.467*

➡ Another Chaos Plotter: plots mathematical iterations.
➡ Lasso: makes irregular blocks to be placed in any background picture. (M)
➡ Prom: illustrates EPROM programming. (M)
➡ Selector 2.73: allows you to choose accessories and Auto prog's on boot-up. Different pre-deined boot installations are supported.
➡ SysInfo 1.02: Accessory/Program that gives insight into Atari hardware and software: memory mapping, processor speed, etc.

## *STC.468*

➡ Tree 2.2: allows entry, editing and printing of family trees. (M)
➡ Kritzel 3.9: Bit-image paint program with plenty of features. (M)
➡ Lan'Plan: Personal timetable maker.
➡ Medicine: Info on contents, use and efficiency of 472 medicaments. Offers suggested remedies for any input symptoms. (M)

## *STC.469*

➡ Dachkammer: crime adventure. You run a detective agency and have to solve increasingly strange cases. Windows interface. (M)
➡ The Ruins of Kalawaum: action role game. A cursed place: cries in the night, ghost stories and opened graves. Will you ever get home? (M)

## *STC.470 Virus Protection*

➡ Virus detector: detects numerous boot-sector and link viruses, immunises disks against further infection. Checks floppies and hard disks. Comprehensive introduction to the art of the virus. (M)
➡ WProtect: write-protects disk drives.
➡ ABC 2.5: anti-bacterial condom. Automatic and user-friendly protection against link viruses by altering extensions.
➡ Scrutinizer: boot sector checker.

## *STC.471 Libraries*

➡ Mimama: eXtended form-do()-Lib. Comprehensive library for making dialogues with buttons, hot keys and easy-to-use entry fields. Boxes may be moved.
➡ ModVers: Version manager for Modula2 programs. Allows different parts of source code to be handled accordingly. Parameters such as 'with trace', 'PC-version', or 'no checks'.

# Beginners' Forum

**Mark Baines**

## File Management

Having spent some time looking at disks and how to set them up and use them, I thought it might be an idea to look at some simple disk housekeeping or file management.

In some respects the organisation of your files on your disks and their general maintenance is more important if you have a hard disk, if only for the simple reason that there is more to lose when the inevitable accident happens. However, most of the principles I will cover apply to single floppy-based systems as well as those with hard disks.

### Folders and Filenames

You should all be familiar with folders or subdirectories. One of the best ways to organise files on a single floppy or hard disk partition is to group related files together in a folder rather than have them scattered all over the place. This is also important if you have many small data files as the maximum number of files in the root directory of a double density floppy disk is 112. There is no limit in a folder. For instance, on the floppy containing your word processor, the program file can be in the root directory for easy access but keep your documents stored in a folder called DOCS. Within this folder you can place others, such as LETTERS, NOVEL, WORK, PERSONAL, MISC etc. If you have a system with two floppies, then these folders might be better placed on a separate disk in drive B.

Now, when you start using an application like this, all this organisation seems an overkill when you have only written three documents and two of them aren't worth keeping! But, it's amazing how quickly you do start filling up a disk with data files and how soon you want to find a certain file you did a while back. That leads me on to another important related matter – file names.

From the above, it is clear that the folder organisation involves folders with sensible names that you can instantly recognise – letters are found in \DOCS\LETTERS, for instance. The same goes for file names. The names of your application files shouldn't be changed as a rule, especially those that the main program will be looking for at some point, such as resource .RSC files and configuration files. These also should be in the same folder as the main application program. You can give any name to your own data files of course, but try to be consistent and stick to accepted guidelines. The file name extender is very important and is usually a guide to the type of file it is attached to. For instance, all your word processor documents might have the file name extender DOC. Don't be tempted to name some .LET, .NOV, .PER, .MSC and so on – this is what folders are for. Keep the extenders for any one application consistent. Stay within the 'standards' already set. ASCII files with a carriage return at the end of every line should be TXT and those with carriage returns at the end of paragraphs only ASC. Back up files should be BAK. GEM image files are obviously IMG – you'll only introduce confusion later if you call them PIC! Most applications don't give you a choice of extender, which is probably a good idea. If an application chooses an extender for you, don't override it – it has good reason to.

The other part of the file name – the first eight characters – should be carefully considered. If writing a letter, there is no need to call it LETSMITH.DOC if it resides in the LETTERS directory, making the LET part of the name redundant. Including the date of the letter in the name is also pointless as this is displayed in the directory listing. Try to put something in the name that gives you an idea as to its contents but don't be too cryptic. Yes, I know it's difficult with only eight characters to play with, but this is where the use of folders help.

There are many schemes that people have devised over the years for consistent and 'informative' file names, some of them complicated beyond common sense. I'm not going to bother you with these. Just be consistent and try to make sure it makes sense to you a year later.

### Floppies

If using a floppy based system, then having separate application disks has got to be the most sensible way of organising your disks. If your application or system allows it then separate data disks are also best. This also makes it easy to back up your data files by just doing a disk copy of your data disk to another one.

Give every floppy a sensible volume name when you format it and label them carefully, first with the volume name at the top and then a short description or title as to the disk's contents and date. There is no need to write down the name of every file on the disk, in fact there shouldn't be the need for any names if your organisation is good. For instance, you will know where to find the PD program to test a disk for corruption because you have a disk labelled DISK DIAGNOSTIC TOOLS, the PD formatter is on DISK FORMATTERS and all your old accessories are on UNUSED ACCS. The use of coloured labels may also help. There are also programs available that will create a label using the directory listing if you want (UTI.70 and UTI.273). At the end of the day, I have no sympathy for those who don't label disks!

However, after a while the number of floppies increases beyond easy access, especially if you accumulate PD programs, as I do, with disk boxes all over the house! (Why all over the house? Because I store all my original master disks in another room well away from my study and the computer in case of a fire there.) With so many disks, a disk catalogue program is necessary. I highly recommend that everybody obtains the excellent STDCAT (ST Club disk DMG.28). This program has a record of the contents of all my floppy disks and it is a simple matter to find any file by searching the database for the file name or my comments. Entering the disk details is as simple as sticking it in the drive and clicking on a menu item. This is a versatile and invaluable program – do get it.

Use the write protect tab. If your application program doesn't need to write to its disk then open the write protect tab to guard against any possible loss. Do this as a matter of course on all master disks (you work from copies of master disks, don't you?) and backup disks not in use.

### Hard disks

As floppy disk users employ separate application floppies then hard disk systems use partitions and plenty of folders. There are several ways in which you can organise partitions. I have a separate partition for each major application area, UTILITIES, TEXT PROCESSING, PROGRAMMING, DATABASES, COMMS, GRAPHICS. So word processing, DTP, editors, fonts, etc., are all on the TEXT partition, whereas Superbase, spreadsheets, BBS file lists, STDCAT are all on DATABASES. Each application is in its own folder on the partition with its relevant files. Each application folder also contains a DATA or FILES folder where I store the application's data files.

Another way to organise all

your data files is to have either a separate folder on each partition called DATA or a whole partition put aside with individual folders for each application's data files. This makes backing up all your data very easy as it's all in one place - but it seems to me like too many eggs in one basket. Be careful with this approach. It is all too easy to forget that your data files consist of more than those files you actively create. I've known of several people who regularly backed up their data but came unstuck when they had a hard disk accident and, after installing everything again, found that most of their applications didn't run as they used to because they forgot to back up the applications' configuration files. As these are not contained in your DATA partition it is easy to miss them. Any one who has spent many hours messing with complicated comms configuration set ups or ASSIGN.SYS files will know the agony of not having a backup. I particularly hate those programs that save their configuration details to themselves and not a separate file, such as Tempus or Arcshell. To back up their configuration you have to back up the whole program - most unnecessary.

## Backing up

I'll leave the whole principle and practice of making backups to another article, but I'll just say here that efficient file management does involve preparing yourself for that inevitable day when you lose data for whatever reason. Get hold of The Vault (UTI.146) or Turtle (UTI.255) for then.

## Disk utilities

There are various utilities, both commercial and in the Pubic Domain, that will enable you to check the validity of the data on your disk - to see if any files are corrupted or that the file structure (FATs, directories, etc.) is intact. All hard disk owners should have Diamond Edge (see Issue 31) or ICD's CleanUp. These programs will check floppy or hard disks against errors and help to repair them if found. Diamond Edge will also reorganise or defragment a disk so as to make all the sectors belonging to any file contiguous, which makes for quicker disk access. A PD program DLII comes with REORG which will also do the same but be very, very careful; make backups first and don't use DLII on partitions greater than 16Mb. Floppy disk owners can also use these programs. Also useful is a program that checks for bad sectors or corruption of the files on a floppy disk, such as DSKCHK2 (DMG.22). If you haven't got Diamond Edge then seek out ST Mirror (UTI.259) which will save the Boot, FAT and directory sectors of your hard disk to a floppy disk so that you can re-install them in case of their corruption.

Other useful programs include UNDELETE (file undelete - UTI.267), WHATIS (identify file type of unknown file - DMG.27), WHEREIS (find a file on disk - DMG.16), FINDER (find any string of characters inside any file on disk - DMG.29) and the various directory listers and printers and disk diagnostic programs - see the PD Catalogue for a comprehensive list. A TOUCH program is useful (NEWTOUCH UTI.265) to update file dates and ICD's COPYFIX (UTI.208) to stop TOS 1.0 and 1.2 updating the file date when a file is copied.

I'll cover Virus Killers in another article.

## Issue 33 Hard Disks

I am indebted to Eric Chapman on CIX for a correction to my article on hard disks and the able way he makes his point. He writes:

*Mark says that Data Transfer Rate is the amount of time between the reading of a bit from the disk and the completion of writing it into the computer's memory. In fact this measure is the Data Transfer TIME; the Data Transfer RATE is the frequency with which this operation can be repeated. There is no connection between the two figures.*

*A little diagram may illustrate my point:-‹quote›Assume that the dots on the time axis represent one microsecond.*

*R = start of a disk read operation*

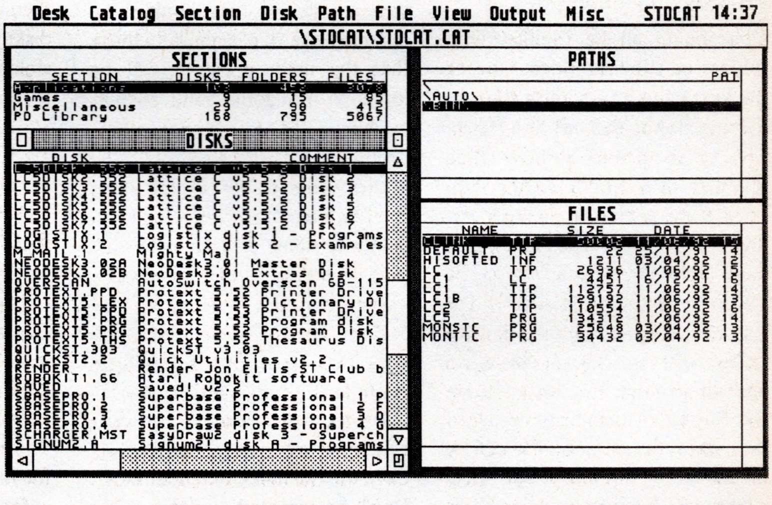
*W = completion of writing the bit to memory*

```
Time -->..............................
Bit 1  R                    W
Bit 2   R                    W
Bit 3    R                    W
Bit 4     R                    W
... etc.
```

*In this hypothetical (but reasonable) example, the data is being read from the disk at one bit per microsecond, and written to memory also at one bit per microsecond, 20 microseconds later. The data transfer rate is 1 Mbit/sec, and the data transfer time is 20 microseconds. The two performance measures are independent.*

I admit to getting the two confused as I spoke of the measurement being in bits per second. I also stand corrected on my assumption that the MegaSTe had an internal SCSI port in the hard disk bay. I ought to know better; it is, of course, a standard Atari host adaptor.

Send me a letter or EMail with ideas for future articles. Thank you for the letters received so far. Although I can't promise to respond to all personal queries, I'll do my best if a SAE is enclosed. You will also find me on CIX and the NeST, TurboNet and FidoNet BBS networks where this magazine is supported.



```
SECTION              DISKS  FOLDERS  FILES
Applications         [illegible]
Games                    9       15     85
Miscellaneous           29       98    412
PD Library             168      795   5067
```

```
DISK            COMMENT
[illegible]     Lattice C v5.5.2 Disk 1
LC5DISK2.552    Lattice C v5.5.2 Disk 2
LC5DISK3.552    Lattice C v5.5.2 Disk 3
LC5DISK4.552    Lattice C v5.5.2 Disk 4
LC5DISK5.552    Lattice C v5.5.2 Disk 5
LC5DISK6.552    Lattice C v5.5.2 Disk 6
LC5DISK7.552    Lattice C v5.5.2 Disk 7
LOGISTIX.1      Logistix disk 1 - Programs
LOGISTIX.2      Logistix disk 2 - Examples
M_MAIL.1        Mighty Mail
NEODESK3.02A    NeoDesk3.01 Master Disk
NEODESK3.02B    NeoDesk3.01 Extras Disk
OVERSCAN        AutoSwitch Overscan 6B-115
PROTEXT.PPD     Protext 5.52 Printer Drive
PROTEXT5.LEX    Protext 5.52 Dictionary Di
PROTEXT5.PPD    Protext 5.53 Printer Drive
PROTEXT5.PRG    Protext 5.53 Program disk
PROTEXT5.PRG    Protext 5.52 Program Disk
PROTEXT5.THS    Protext 5.52 Thesaurus Dis
QUICKST.303     QuickST v3.03
QUICKST2.2      Quick Utilities v2.2
RENDER          Render Jon Ellis ST Club b
ROBOKIT1.66     Atari Robokit software
SAVED           Saved! v2.2
SBASEPRO.1      Superbase Professional 1 P
SBASEPRO.2      Superbase Professional 2 F
SBASEPRO.3      Superbase Professional 3 D
SBASEPRO.4      Superbase Professional 4 G
SCHARGER.MST    EasyDraw2 disk 3 - Superch
SIGNUM2.A       Signum2! disk A - Programs
```

```
PAT
\
\AUTO\
[illegible]
```

```
NAME                 SIZE    DATE
[illegible]
DEFAULT   PRJ          22  25/11/91  14
HISOFTED  INF        1211  03/04/92  12
LC        TTP       26936  11/06/92  15
LC1       LC         4451  16/12/91  16
LC1       TTP      112757  11/06/92  14
LC1B      TTP      129192  11/06/92  13
LC2       TTP      110554  11/06/92  16
LC5       PRG      134312  11/06/92  14
MONSTC    PRG       25648  03/04/92  13
MONTTC    PRG       34432  03/04/92  13
```

Figure 1. STDCAT 5.2 showing a catalogue of disks and the contents of one particular one.

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EMail:
Internet: msbaines@cix.compulink.co.uk
NeST: 90:105/5
STA support in N.ST.MISC echo
FidoNet: 2:259/29.10
STA support in ATARIST echo
TurboNet: 100:106/0.10
STA support in T_ATARIS echo

# DESKTOP DISCUSSIONS

## The Lost Treasures

*Just because Infocom haven't published an adventure game for the ST for nearly six years doesn't mean that you can't enjoy their extensive back-catalogue. William Hern explains how.*

Did you have a good summer holiday? Go anywhere interesting? Myself, I explored the ruins of the Great Underground Empire and searched for fantastic treasures in an Egyptian pyramid. I was also marooned on a distant alien planet with no-one but a playful robot for company. I even found time to investigate a baffling case of murder.

As you may have guessed, I spent my summer playing Infocom text adventures. For those who have never played one, an adventure game is rather like a novel where the player takes the role of the hero or heroine. The player has the ability to move around a set of locations and interact with the surroundings, picking up objects and using them to solve various puzzles. The computer acts as narrator, describing the results of the player's actions.

Infocom were founded in 1979 by a group of MIT programmers. They had written a mainframe adventure game called "Zork" in which the player was set the task of exploring a vast cave system and retrieving items of treasure. With disk drives becoming increasingly common, versions of the game were written for the TRS-80 and the Apple II microcomputers. These were incredibly popular and so the company decided to concentrate on writing adventures for micros. Zorks II and III soon followed along with the detective adventure "Deadline". The Zork games were so successful that a user group sprang up which by 1983 had over twenty thousand members.

The company grew quickly, releasing several adventure games every year until by 1985 it had a hundred employees and sales of nearly eleven million dollars. Their reputation for writing large adventures which were full of interesting puzzles and characters ensured that each new game was a commercial hit.

They were also famous for their game packaging - you never got just a disk and a manual in a cardboard box. A prime example was "The Hitch-hikers Guide to the Galaxy" (Infocom's biggest selling game) which came with a pair of peril sensitive sunglasses (permanently opaque), a Vogon document ordering the demolition of Earth, a piece of pocket fluff, a "Don't Panic!" badge and even a microscopic space fleet! Unfortunately, from 1985 it was all downhill. The company's sworn policy of making text only games was beginning to hit sales as the graphical power of micros increased and publishers of graphic based adventures such as Sierra-On-Line rose to prominence. To compound its woes, the company lost millions with its ill-fated Cornerstone database product.

In the middle of 1986 Infocom agreed to a merger with Activision. The stream of new text games continued for a while but eventually diminishing sales forced the company to experiment with graphics in their games. These were not any more successful and in the summer of 1989 all but eleven of Infocom's staff were laid off. Those kept on were moved to Activision's West Coast headquarters and Infocom became purely a publishing label.

Last year Activision took advantage of their extensive back-catalogue of Infocom adventure games and published volumes I and II of "The Lost Treasures of Infocom", containing all but one of the Infocom adventures. Volume I had twenty games in it including the five Zork games and "The Hitch-hikers Guide to the Galaxy". The eleven games in Volume II included "Trinity" (in my opinion the best adventure ever written) and "Sherlock".

Unfortunately, versions of LTOI were only released for the PC, Mac and Amiga. However, that doesn't mean that the packages can't be run on the ST. Infocom games are written in Z-code which is a compiled version of ZIL (Zork Implementation Language). Now it is an interesting but little known fact that Z-code is machine independent, that is, the datafile for a particular adventure is the same regardless of the machine it is intended to be run on. Once an interpreter is written for a machine, all the text adventures can be run on it with no conversion work required.

If you already own an Infocom game for the ST then you probably have everything you need to try out the LTOI adventures. Buy any version of LTOI (I recommend the PC version because of the compatible disk format), copy the datafile of the game you want to play on to a disk containing the interpreter that came with your ST game, rename the datafile to whatever the interpreter expects and the game should load up without any problems.

Even if you don't own an Infocom adventure you can still play these games as there are a couple of public domain Infocom interpreters, PINFO and ZMACHINE, for the ST. They are available from the Floppyshop PD library on disks UTL.3764 and UTL.3768 respectively. I should point out though that these interpreters will only run Z-code version 3 games. Fortunately this covers most Infocom games written but not classics such as "Trinity" and "A Mind Forever Voyaging". There is another interpreter written by the InfoTaskForce which will run all games written in versions 1 to 5 of Z-code but I'm not aware if anyone has compiled this for the ST.

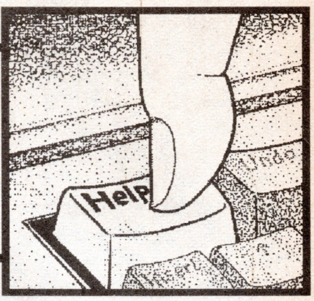
Activision have published both volumes of LTOI in the UK. Volume I costs £29.99 and volume II £25.99. Considering that the individual games were originally on sale for very similar prices, both volumes are incredible value for money. Your local software dealer should be able to get hold of copies, but if they have problems, ask them to phone Activision's sales agents on (0295) 263363. Foreign readers are advised to contact Activision in the US directly at 11440 San Vincente Boulevard, Los Angeles, CA 90049.

Text adventures may not push the limits of modern day microcomputers but that doesn't mean that they can't provide hours of entertainment. There are some tremendous Infocom adventures and the two volumes are a perfect way of passing the long winter nights ahead. Invite a couple of friends round and tackle one together over a few evenings. If you're new to adventuring then I would recommend starting with "Wishbringer" (volume II) which has a strong, atmospheric plot, plenty of humour and generally easy puzzles.

Perhaps if LTOI sells enough copies, Activision will commission new text adventures. Finding any other type of game with the Infocom label on it just doesn't seem right.

William Hern

# FORUM



## Retrenchment on the German Front

**I** There have been several signs that the Atari world is battling against hard times in Central Europe. This is independent of any European recession, which has been as patchy and as hard to pinpoint as the UK's recovery.

Every year, ST Applications has reported on the Atari Exhibition at Düsseldorf. Not this year though – it's not being held. There is no real replacement, only a promise to resurrect it in 1994. Maybe the Le'ST Get Serious shows can fill the gap.

More importantly, the remaining three ST magazines have combined under one banner, that of ST Computer. The smallest one, Atari Journal, had already folded in January, and now ST Magazine and TOS have joined it. Within eight months, your own ST Applications finds itself Europe's Number 2 serious ST publication.

Three years ago, most of the staff left ST Computer to try out some new ideas, and formed TOS. It was always the best written of the German magazines, and introduced the Continent to the accompanying disk, containing a demo, a PD application along with the code to the strategic error, but this is not so any longer. The sister publication for the Amiga, with the same concept and chief editor, is still going strong. Nor does this prove the superiority of the Amiga: price was the main factor. TOS charged 15DM (£8) and so one decided carefully about each issue before buying. The Amiga publication costs a more normal 10DM.

My overriding feeling at the demise of these magazines is one of gratitude, rather than loss, Schadenfreude or sadness. UK readers have good reason to be grateful too, for the publishers played a leading and active role in the tremendous success of the ST in Germany. On their own estimate, the publishers of ST Computer have sold 200,000 books, 100,000 programs and 50 000 hardware add-ons to a user base of 1,000,000 STs. I wish the reborn ST Computer every success in living up to this proud tradition.

Last week, Falcons appeared in the shops in Switzerland and SW Germany. The first one I saw was in a music shop, so I checked at once with the Atari computer dealers. Sure enough, they had them too, alongside the MAC Performas and Commodore PCs. (Well, they had to sell something to stay alive.) The Swiss shops have indeed had a hard time since the report on Atari Switzerland in the August 1992 issue. The Swiss office was abandoned in January 1993, except for a skeleton staff to hold off the catastrophe. Since Atari Switzerland had become a major software distributor, software supplies collapsed as well. The trade reported paying wartime prices, 30% or so above normal wholesale, to get supplies of the German applications.

So where's the good news? The machines are in the shops, where they can sell on their merits. There are enough, it seems, to sell to both specialist and generalist outlets. The add-on industry is blossoming again, with several cheap screen expanders (e.g. Overscan) and a cheap 32MHz accelerator (Skunk). New software applications keep coming, above all recently in the database and music areas, but also the genial DA's Vektor or Crazy Sounds. SpeedoGDOS will surely lead to similar advances in the document processors. The last issue of TOS reported on a First Word version 4.0, for example.

But the best news of all may be Atari UK's two-pronged attack. The hardware base is being expanded with cheap STs, and sophisticated users can move up to Falcons. The battle front may just have moved to the United Kingdom.

**Britt Johnston**

● Recovery? We see no recovery. But for there to be three mainstream news-stand Atari magazines in the UK and just one in Germany was unthinkable just a couple of years ago, though it is doubtful that we will keep all three: all Atari magazines have suffered a circulation drop in the order of 25% this year.

Even less encouraging was the fact that Atari couldn't be bothered to put a couple of Falcons in the back of a car and spend the day at the recent Atari Show. Amazing. (Probably a wise move though – public lynchings are not a pretty sight.)

The Forum pages are a regular feature of ST Applications, enabling readers to exchange ideas and help each other out with problems. Whilst we attempt to briefly answer questions here, if you have additional information or ideas please do submit them for publication. What you consider to be trivial information can often be of condiderable use to other readers!

Please send your letters on disk if possible. Disks will be returned with a PD of the writer's choice. Longer submissions may appear as articles, in which case you will receive payment at our standard page-rate.

**Key:**

The following codes are used for each Forum entry:

J Pringle – Forum STA 20: Author who first raised the subject, and in which issue.

**Q** Question

**A** Answer

**I** General information or 'Input', advice, discussion, hints and tips, etc., with or without reference to previous Forum pieces.

● Editorial reply

## Protext

Cyril Maskery – Forum STA 33
David Gunby – Forum STA 34
Deborah Pate – Forum STA 34
Brian Elliott – Forum STA 34

**A** I find I maligned Protext in my last letter when I suggested that you get odd results if you use a self-incrementing variable and another variable of the same name (minus the full stop) in a document. In fact it works perfectly well. I was getting odd results, however, because when you print a block Protext insists on reading all the other variables set in the whole document; if this is a feature, it's rather an annoying one.

I like Brian Elliott's suggestion of a PD collection of Protext routines. Just to show willing, I've cobbled together a Protext file which will convert Arabic to Roman numerals, in response to David Gunby's request. Here it is (elegant it isn't):

```
›dp 0
›sv continue=1
›rp
›av "Number to convert? " number
```

```
›if isnum(number)
›sv thousands=number div 1000
›sv number=number mod 1000
›sv ninehundred=number div 900
›sv number=number mod 900
›sv fivehundred=number div 500
›sv number=number mod 500
›sv hundreds=number div 100
›sv number=number mod 100
›sv ninety=number div 90
›sv number=number mod 90
›sv fifty=number div 50
›sv number=number mod 50
›sv tens=number div 10
›sv number=number mod 10
›sv nine=number div 9
›sv number=number mod 9
›sv five=number div 5
›sv number=number mod 5
›sv answer="Converts to "
›if thousands
›rp
›sv answer=answer+"M"
›sv thousands=thousands-1
›un thousands=0
›ei
›if ninehundred
›sv answer=answer+"CM"
›ei
›if fivehundred
›sv answer=answer+"D"
›ei
›if hundreds
›if hundreds=4
›sv answer=answer+"CD"
›el
›rp
›sv answer=answer+"C"
›sv hundreds=hundreds-1
›un hundreds=0
›ei
›ei
›if ninety
›sv answer=answer+"XC"
›ei
›if fifty
›sv answer=answer+"L"
›ei
›if tens
›if tens=4
›sv answer=answer+"XL"
›sv tens=0
›el
›rp
›sv answer=answer+"X"
›sv tens=tens-1
›un tens=0
›ei
›ei
›if nine
›sv answer=answer+"IX"
›ei
›if five
›sv answer=answer+"V"
›ei
›if number=4
›sv answer=answer+"IV"
›sv number=0
›ei
›if number
›rp
›sv answer=answer+"I"
›sv number=number-1
›un number=0
›ei
›dm &answer&
›ei
›un continue=0
```

To use the file, just print it to screen and it will do the rest. I feel sure there must be an easier way than this - perhaps someone else will send it in. I tried using Protext's own conversion facility to do the job, but whenever I set a supposedly Roman variable to equal an Arabic number, it seems to change back to Arabic format automatically, and though I could get round that by using a loop, it took forever to convert larger numbers. Not that large, actually: Protext's limit for Roman numerals is 3999. This seems to work, anyway, although if the Romans used different letters for 5,000, 10,000, etc., they'd need to be added.

It's not clear from Mr Gunby's letter in what circumstances he wants to convert numbers, anyway, so I'm not sure how useful this is. If the numbers in question are already embedded in a text file, so to speak, then I don't know any way of doing it except by hand or by using Search and Replace. Protext makes the latter easier, however, as you can use an executable file like this:

```
r "1" "i" wga
r "2" "ii" wga
r "3" "iii" wga
...
```

In command mode, type 'x roman' (or whatever you've called the exec file) and it will convert all numbers in the current document to Roman numerals. You might be able to limit the damage by using the Block parameter as well, depending on where all the numbers are. Obviously, the prospect of constructing such a file by hand is too appalling to contemplate, but Protext can do the job for you. Just create this file (it's the last one, honest):

```
›dp 0
›sv number.=1
›dp r
›sv numeral.=1
›av "Highest number to convert? " max
›rp
r "&number.&" "&numeral.&" wag
›un number.›max
```

Print this file to disc and it will create the exec file described above (you'll have to remove a few control codes from the beginning). Obviously, the lower the maximum, the smaller the file and the fewer numbers it will convert - which is probably a good thing.

**Deborah Pate**

**A** In my opinion, his problem can be more simply handled by writing a small Promerge programme; there may indeed be a suitable system call, but there is no real need to use it.

I've written a little programme which prints vestigial Charity Event tickets - see below. It allows you to print any number of tickets starting from any base number, so if, for example, you have already printed 1000 tickets and find you need another 200, you just enter 1000 at the first programme stop and 200 at the second and the tickets will start being numbered from 1001. Of course, if it is your first run, you just enter 0 at the first programme stop.

It would be simple to adjust the programme to print, say, three abreast: all you have to do is define two new variables tickno1 and tickno2 equal to (tickno+1) and (tickno+2) and write out a three abreast ticket format to suit your printer. The third from last line in the programme is then changed to '› sv tickno=tickno +3. With this very simple change, there could be a minor problem if the number of tickets is not divisible by three, but it is easy to avoid this situation arising.

```
›› programe to print numbered tickets starting from any base
›› JMB 22nd August 1992
›pl 6
›av "How many tickets have been printed already? ",total; type in base
›av "Enter number of tickets to be printed ",tickets; type in number required
›dp 0; set number of decimal places to zero
›sv newtotal=total+tickets
sv tickno=total+1
›› here we print the actual ticket, only an outline for this example
›rp
‹list2›ce CHARITY EVENT
›ce Ticket number & ticno&
›pa
›sv tickno=tickno+1
›un tickno=newtotal
›dm "Finished"
```

**Dr. J M Bowsher**

## Testing DMA Chips

Mike Miner - Forum STA 16
Mark Walton - Forum STA 18
David J Lindsay - Forum STA 19
R M Dickson - Forum STA 21
Ian Abbott - Forum STA 22
L Upton - Forum STA 33

**I** I read with interest the reply given to L Upton, (issue 33) as I too have an STE that will not save the desktop in medium res. As you instructed I looked under the floppy drive and found what I assume to be the DMA chip with CO25913-38 PH23-030 9J2 89. written on it. As I too am contemplating a hard drive, I took your advise and wrote to Atari UK with this information.

The reply two days later from Mary Barber, Sales Administration Manager, requested that I contact the Sales Adminstration Department giving the serial number of my machine (fair enough) and my name and address and daytime telephone number (already given) in order that an Authorisation number can be allocated.

I wrote back with the serial number, asked for confirmation that it was a sub-standard chip, how long will the repair take (as I use my STE daily), if a replacement STE will be supplied while it's being repaired (cheeky you might think) and asking if I will be able to save the desktop in med res after the repair has been completed.

The next day at 9.30 a phone call from Mary Barber who conveyed the following:

1. That it was impossible to tell if the chip was faulty unless the machine was returned.
2. I would have to pay for the postage to return my STE to Atari and they would pay to send it back to me.
3. If the DMA chip was faulty it would be replaced free of charge, if it was something else (?) the

repair would be charged at £70 minimum.
4. The repair would take approximately four weeks as they were very busy and no replacement STE can be supplied (surprise surprise).
5. Atari have never supplied DMA chips and will not supply them to owners to fit themselves.

I read the article 'Testing DMA Chips' and said it was from ST Applications September 1992 issue. The response was that Atari did not print this magazine and that it was inaccurate. I then asked for the above to be put into writing so that I might forward the information to you, in order to save other people going through this absurd situation and in effect reducing Atari's workload (as they were so busy).

The response to this was that a person with technical knowledge would have to be found to write the technical details of the above and as soon as someone was located it would be confirmed in writing. I was then given my Authorisation number.

**David Bradley**

## Changing Platforms

**I** Like many devotees of Atari, I was encouraged by the announcement of the Falcon. In my case, pushing the limits of the ST in DTP and video image manipulation, the specification of the Falcon offered much at a seemingly attractive price.

Well, the Falcon is available, I have seen it in operation, seen interesting hardware addons, seen, heard or read about software in development. Spent time at recent Atari-specific shows and spent time in costing a Falcon-based system which would meet my requirements.

Quite by chance, a programmer/technical-journalist friend who had been out of the country for about a year, rang to say "Hi" and to suggest meeting at the Business Computing Show held at Earl's Court (21-24 September).

Revelation! After a most interesting day looking at PCs and a sprinkling of Macs, I realised how tiny and circumscribed is the world of Atari. I certainly had not realised how the GUI Windows environment of PCs had improved of late and how slick many Windows-specific applications had become. But I realised that if I invested in a Falcon, I'd end up with the sort of kludge which surrounds my present STe. All for a moderate increase in speed and with no guarantee that there would be the software and hardware available to support my requirements - the sort of hardware and software which I'd seen at Earl's Court, off-the-shelf, often with mind-boggling choice, and at suprisingly moderate prices.

I won't enter at great length into the ST versus PC debate, because in the main it is not now a case of comparing like with like. But it is when my system requirements are costed that comparisons become interesting.

Suffice it to say that the funds I had earmarked for a Falcon (with specific enhancements) will almost certainly be diverted - in favour of a Hewlett-Packard 486DX 33MHz 4Mb PC, preloaded with Windows and DOS 6.0., supplied with a respectable SVGA monitor, fast graphics card and a hard-disk three times the capacity of those in the latest Atari Falcons. Yes, Hewlett-Packard! It just shows where Power and Price now lies. If I were not so fussy about build quality, expandability and manufacturer-support, I could buy a 'Brand X' 486 machine with much more user RAM and have some money left towards the cost of an Eizo 17-inch flexiscan beastie or a CD-ROM unit.

Yes, I know I'll have to buy software (and more memory for the HP!). For quite some time, no doubt, I'll have to run two systems, using my trusty STe for general word-processing and maybe the sort of DTP where I don't mind waiting for PageStream 2.2 to do its thing. The video/graphics intensive stuff will be handled on the other platform.

Over the years, I reckon I've had my money's worth out of Retouche, Didot, Touch-Up, PageStream, Calligrapher, Redacteur, and similar ST powerhouses that occupy a respectable portion of a partition on my "hang-out the back on a DMA cable" hard-disk. In that equation, I include the fun and experience gained. In working and sometimes struggling with "professional" applications, I'm in a much better position to choose applications for a PC. I know what I want (or would like to be able to do), and I have nearly six years of being an Atari user to thank for that.

The sheer convenience of having the majority of electronics in a cabinet with plenty of room for fitting in additional circuit-cards, drives, and so on, is one major factor in swinging my scales in favour of a PC (when viewed against the inconvenience and cost of rehousing a Falcon, and we still don't know about an Atari-reboxed Falcon ). The other is something almost mundane, but which demonstrates the power and price factor in the PC camp.

At Earl's Court, I was looking at flatbed colour scanners, and almost passed by a hand-held 105mm colour scanner, until I realised that it was being used to scan an A3 colour print in 24-bit True Colour, with the scanning software automatically "stitching" the strips together! The same software not only offered 256 greyscales, it also offered powerful editing facilities which give Retouche a punch on the nose. And the scanner driver is Twain-compatible. Ah yes, all very nice, but at what cost? Well, it's on my shopping list for under £300 (its monochrome-only 256-greyscale brother is under £200).

I use PCs at work, and am well aware that Windows can (and does) fall over, that it is incredibly memory-hungry, that Intel-type processors of the x86 family are generally inefficient in terms of instruction set and clock-ticks compared to Motorola-type 68xxx family, that certain PC software is incredibly over-priced, that DOS (when you have to use it) can be a pain. No "personal" computer or operating system will be perfect or painless, and in the IBM-PC the world of the late 20th Century has been given the computer it deserves. But it is global, omnipresent in most businesses, and must be viewed as cost-effective in terms of the enormous user and support base, choice and availability of software and additional hardware.

Where does that put the Falcon? In my case, almost certainly **not** on my worktop!

**Peter Carbines**

● Atari Workshops (081-693-3355) can supply a Falcon in a tower case with oodles of room for expansion cards, all for less than the cost of a DSP for your PC.

**I** I'm sorry to say that after two years, I'm having to sell my STE because of its dwindling popularity. I am going to upgrade to a 32-bit machine, the A1200 (boo, you may say) which only costs £260, the price of my STE new! I feel guilty leaving my STE and Atari and upgrading to an Amiga machine but that's the competitive market and if Atari don't create a similarly priced 32-bit machine, I fear the ST popularity will crash even more. Out of my friends who used to own ST's, five of the eight now own A1200's, two own PC's and there is only one ST owner left.

● Here endeth the reasons not to buy a Falcon debate. No more letters on this subject please. Can we also bring the 'Atari are not a very good company' debate to a close? From now on we'll only print doom and gloom letters if they are either very short or very funny.

## Imagecopy

D R Burridge - Forum STA 34
K L Yull - Forum STA 34

**I** By the sound of it K L Yull is nearly there on tiled output, even if Imagecopy is not meant to support it. I suspect part of his remaining problem may lie as much with the DeskJet as with the software.

There is always a half-inch non-printing region at the bottom of each page on the DJ, and another at the top if perforation-skip is on (DIP switch 8, though most software overrides this setting). Taking two half-inch margins from a full page of graphics would force the DeskJet to print an inch of overflow on a second sheet before the official 'second' page appeared on a third sheet. I don't have Imagecopy to test this but if it is possible to define a custom page length he may be able to get round the problem by setting it to 11.16" or 10.66", as appropriate.

**Richard Haseltine**

## Imagecopy and APL

J Shaw - Forum STA 34

**I** Your editorial comment that APL is no longer supplied for the ST caused me considerable surprise. I know the managing director of MicroAPL very well. This company created and sell APL68000 Levels I and II. As of last week that firm was still trading and still selling their version of this language. At £87 for level I and £170 for level II (plus VAT) this must be the cheapest commercial APL interpreter on the market. It also happens to be the best. This was the reason I bought the ST in the first place. Address: Micro APL Ltd., Southbank Technopark, 90 London Road, London SE1 6LN; Tel: 071 922 8866.

If those sums are more than the pocket can bear, a cut-down version of APL is available for the ST for £11 from I-APL Ltd., 56 The Crescent, Milton, Weston-Super-Mare, BS22 8DU. This was produced by some enthusiasts for use in the classroom. Originally written for the BBC machine it is now available on a number of platforms together with a good deal of program material for use in mathematics and social studies teaching.

**P R Fisk**

## New Word

John Stean - Forum STA 34

**I** I had a similar problem when I tried out the programme and as a result have given up on it. However, I think the problem is something to do with the palette becoming "white on white". Providing you do not twitch the mouse and call up a menu it is still possible to use the keyboard short-cut to quit the programme back to the desktop. I am not sure what happens if it is called from within another programme.

The accessory word processor SPIRIT.ACC seemed to be a lot better but I tried to use it for text entry whilst running Timeworks and it was just very slow. I now use a wordprocessor even for short text files, simply because I know it works.

**Huw Williams**

## Tempus and Laserjet

Graham Hinton - Forum STA 34.

**A** The arguments are:

| | |
|---|---|
| Orientation: | Portrait 0 Landscape 1 |
| Spacing: | Fixed 0 Proportional 1 |
| Pitch: | characters/inch |
| Point size: | number of points |
| Style: | see below |
| Weight: | arbitrary (e.g. light is "-3",<br>bold is "3"). |
| Typeface: | arbitrary (see below). |

The manual for the HP Laserjet III printer contains all the ESC sequences Mr. Hinton requires. The arguments appear to be decimal, and "0" is used where appropriate. However, some of the arguments are arbitrary, e,g. Primary style "upright" is ESC(s0S, whereas "expanded" is ESC(s24S. The argument for Courier typeface is "1", and for Univers "4148". The arguments for point sizes and pitch obviously start from "1". The final letter in some sequences needs to be in lower case for some purposes. The use of the closing bracket in place of the opening bracket sometimes modifies the command, but in others has no meaning. The matter is therefore somewhat more complex than it appears. The full list is long, and occupies several pages in the manual.

Incidentally, the sequences quoted in Mr. Hinton's letter include the closing bracket, which is wrong; it should be the opening bracket.

**David Hanstater**

**I** One thing worth noting is that where several PCL commands have the same initial characters you can string them together by entering the prefix once and changing the final letter of all but the last command to lowercase. HP give their manuals separate product codes, and for the DeskJet at least they produced a book with hardware and software descriptions going beyond the standard manual, so if Mr Hinton has twenty-odd pounds to burn he might be able to get definitive(!) answers to his questions.

**Richard Haseltine**

## Ram Discs

John Stean - Forum STA 34

**I** Shortly after buying my Mega 1 I discovered Maxidisc and my intended purchase of a second floppy drive has never happened. I probably use Fleet Street 3 more than any other program and I have a boot disc which sets up the Maxidisc ram disc, copies all the overlay, font, width and CCT files into it and then starts the program using START-GEM.PRG. All of this used to take just over 2 minutes but I then had a program which loaded fonts and overlays virtually instantly. When Maxidisc 2.2 appeared on DMG.34 I tried this and was pleased to find that I could reduce the size of the ram disc from 153kb to 142kb and the loading process was also faster. However, when I tried to replace the old version on my First Word disc the files I copy would not fit. It seems that v2.2 is more efficient when dealing with large numbers of small files, but not at all efficient with small numbers of large files. Do any other readers have any experience of this?

**Dave Burridge**

## Ceefax ST

J Furness - Forum STA 30
Richard Hunt - Forum STA 31
John Durst - Forum STA 40

**A** John Durst may be interested to know that what he requires is perfectly feasible given the right software and interface. I shall endeavour to explain briefly the nature and extraction of teletext.

Teletext can be considered as an extended ASCII style character set. It is transmitted along with a normal TV signal in a gap after every frame where no television picture can be sent. A teletext adaptor is additional hardware which extracts this normally hidden information for interrogation by a computer (or other electronic device). The hardware consists of various circuitry centred around specialised chips devised by Philips - all teletext adaptors are thus practically identical. The Morley adaptor is such a box of tricks marketed by Morley for the Acorn and Nimbus computers which I bought many years ago.

This is where I start getting to the point. Whatever the source of the TV signal, be it ground based transmitters or satellite, the coaxial cable which you would normally plug into the TV you plug into the adaptor. The hardware, after being tuned to the appropriate channel, then gets to work extracting the information requested by the software which then stores or displays the results in whatever manner desired.

As all teletext adaptors use the same method of providing the information any adaptor at all should be able to be connected to the computer without substancial modification to interface or software - this includes teletext TVs and satellite decoders with inbuilt teletext decoders. There are just two communication lines (and ground) known as SDA (Serial DAta) and SCL (Serial CLock). When these are located (pins 17 and 18 of the SAB3036 chip) they can then be connected to the computer instead with all the advantages that this brings. That being said, please do not go rushing off and disecting your teletext TVs if you do not know precisely what you are doing! The Ceefax ST software does provide further details of this if you are interested in trying it.

If you intend to receive foreign teletext then this would require modification of the standard English teletext graphics (generated by the computer software). This is no great problem, however, as it would involve no more than loading them into a graphics package and redesigning them.

**Richard Hunt**

## Superbase

Dave Burridge - Forum STA 33

**I** Mark Baines is correct when he said that Superbase Personal (or Personal 2) cannot input values between relational files. To do this you require the programing facilities of Superbase Professional.

Dave Burridge is also correct when he suggests the use of 'UPDATE' as a means of giving fields the same value as that of the equivalent field in a related file. However, is it really necessary for Dave to do an 'update'?

Before I got 'Professional' I found the best way of dealing with a new batch of records that required the same information in a particular field was to set it as a 'constant' in the file definition. In Dave's case, he would use 'FILE EDIT' in the File menu and change the 'constant' info in the date field each time he enters the details for a new STA. This way the date field is entered automatically as each new record is added.

**Anon**

**I** I have now discovered a method of forcing Superbase to print "registers" of different student groups onto a fresh sheet of paper. Let us suppose that I have a "STUDENT" file containing all the details of the students including a field called "Physics_Group". (The underline is necessary as "Group" is a reserved word in Superbase.) A second short file "GROUPS" is then set up with fields for the physics group, tutor + any message to act as a page header. These two files are opened and a query started. The Fields line should then start like this:

ON GROUPS CHR$ (12);Physics_Group.GROUPS,Tutor.GROUPS NEWLINE NEWLINE ON STUDENT Forename.STUDENT,Surname.STUDENT, etc.

The Report line can be left blank or you could have a GROUP COUNT.

The Filter line should read:

Physics_Group.GROUPS = Physics_Group.STUDENT

The Order line can then be sorted on any field/s in the STUDENT file.

When printed, one sheet of paper is wasted (a date and title set up in the usual way will only appear on this page), but then the "CHR$ (12);" sends a form feed command to the printer every time a new group is encountered. I have only tested this on a file with 3 groups with a maximum of 18 students per group when it worked satisfactorily. However, I feel this is a very inelegant solution to a simple problem and I am surprised that it had not been anticipated in a program which is otherwise generally rather sophisticated and fairly easy to use.

(It is possible to substitute the command "EJECT 0" for "CHR$ (12)". In this case a heading will be printed on each page, but 2 further pages are wasted at the end!)

I would also like to pass on a few keyboard shortcuts for Superbase Personal 2 which I have discovered and are either undocumented or extremely well hidden in the manual.

All the Control Panel buttons have keyboard equivalents: Pause = Spacebar (this is in the manual); Stop = Control + C (not quite the same, screen not cleared); 1st Record = Clr Home; Rewind = Control + Cursor left arrow; Previous Record = Left arrow; Current Record = Up or down arrow; Next Record = Right arrow; Fast forward = Control + Right arrow; Last Record = Insert Key Lookup ? key Filter button = key External File * key. *(Sorry, but with no punctuation the last bit of all this is absolute gibberish.)*

If the current file has more than one index you can cycle through them by pressing the - key.

If you have more than one file open the + key cycles through them.

In the PC version the Return key will complete most operations which demand a click on OK on the ST whilst Escape will abort them.

**Dave Burridge**

**I** I am grateful for Dave Burridge's comments on my Superbase Personal Tutorial.

1. I have no idea what version of Superbase Personal is supplied in Atari's Introduction to Database Management. I doubt that there is any real significant difference between v1.026 and 1.028 and that the "several advantages" 1.028 offers over the one I was discussing do not, in fact, exist, as the following will clarify.

2. You are quite right that the Process/Update functions can be used to place an item from one file into the corresponding field of another. Space precluded covering all of the functions in the Process menu that I would have liked to. However, this is not really what I call a relational aspect, at least not as I understand it, having used more powerful databases on PCs. What I meant was that values are not automatically inserted into fields from other files and available for processing by various functions or calculations - all without unnecessary user intervention. Superbase Professional is a true relational database program, Superbase Personal is not. What Update does is to grab data from elsewhere in the same way as Importing from a text file. This, to me, isn't relational in the true sense.

3. You are quite right - I don't know where I got the idea that in Form View the cursor moves from field to field according to their original order. I seldom use this mode and so claim ignorance on that one!

4. Yes, Superbase does warn you if you try to move to another record after modifying it. Remember that this series was aimed at the complete Superbase beginner and that I was trying to encourage good habits from the start and make no apologies for being so "insistent". I'd hate to encourage new users to rely on any program to tell them to save data they have just entered! It is possible to lose data in Superbase, especially so in Professional, unfortunately!

5. My brief for the Tutorial series was for only four articles and so I was forced to concentrate on those aspects most commonly used, especially for the beginner. I was very aware that there was much I didn't cover with Queries and other Process menu functions. Perhaps I could return to this if we perceived a need for it?

**Mark Baines CIX #513**

## Arabic ST

Abidin bin Mat - Forum STA 33

**A** A suitable program is available from a small company in France. The program is called Light, and it comes with several typefaces (Arabic, Hebrew, Japanese and Cyrillic). Unlike most wordprocessors it allows you to write from right to left, which is more than useful for anyone willing to write in a Semitic language such as Arabic or Hebrew. It can print graphically on laser or dot-matrix printers and sells for about £130. Further details can be obtained from Roger Aouate at: Aouate Informatique, 23 Rue Charles, 91230 Montgeron, France; Phone: 33 (for France) -1-69-03-48-52.

**F Ravez**

**Q** We work with an Atari Mega ST 4 using Calamus 1.09 for typesetting books. Now we are searching for an accessory for Arabic which has the same quality as can be had with the Latin (and Cyrillic) characters. Or it could be another DTP or text programme using vector fonts.

Could you help us, advise or sell such an accessory?

If not, could you advise which program, system, company (Atari-based or otherwise) supplies a complex system for these alphabets (in vectorized presentation) and at reasonable prices?

**A B Prochazka**

- Try Gate Seven Computers (071-602-5186); they supply accesories to customize Calamus so that it will work with foreign alphabets, and they also supply systems based on PC software.

## Calamus Fonts

**I** I was interested to read Graham McMaster's comments on 'intrinsic leading' in the fifth article of his series on drawing outline fonts, since I have recently been working on a program which uses Calamus fonts to display text (Textstyle). As Graham notes, programs use the distance between the top line and bottom line to calculate the point size of the font. Unfortunately, the top line is set incorrectly in many Calamus fonts, including the EFF fonts from Gate Seven and current STC fonts. What happens with these fonts is that the top line is set to include accents, which are traditionally excluded from the point size of a font, with the result that a '12-point' size is actually closer to 10-point. This causes problems when using the font: you have to select a font size which is several points larger than the size you want, and you must then alter the leading so that it is the same size or smaller than the fictional point size!

This error can easily be corrected with a font editor such as Fonty. To get correct font sizing, change the top line so that it is the same as or slightly higher than the tallest ascender, and change the bottom line so that it is the same as or slightly lower than the lowest descender. It is worth noting that the ascender line is normally aligned with the tops of uppercase letters rather than the tops of lowercase ascenders, so the top line will normally be higher than the ascender line (lowercase ascenders often extend slightly beyond the tops of capitals). If you have any doubts, compare the result in Calamus or Textstyle with fonts that are set correctly, such as DMC and Compugraphic fonts.

**Jeremy Hughes**

## More Crap Products

H M Sheriff - Forum STA 33

**I** My copy of Power's software doesn't seem to be as buggy as H M's. It saves IMG files that are quite readable by Touch-Up 1.8 and PageStream 2.2 at least, but also seems to dump strange .GEM files onto the hard drive. I am also running it on a 4Mb STE.

My main complaint with this package was that I paid an extra fiver for next day delivery. The scanner arrived the next day but the software to drive it took another week. I was then told that I couldn't have a refund of my fiver!

The software package is nowhere near in the same class as Touch-Up and I can only repeat H M's good advice: "Don't buy the Power Computing scanner".

If H M wants to get in touch with me I'll give him a copy of my working software. I can't see how Power could complain about that.

**Gordon Laurie**

## Suggestions – Catalogue

Richard Court – Forum STA 33

**I** Thanks, I think, for publishing my comments on your catalogue. I came across as fairly harsh on you in the excerpt you published, and I suppose read in isolation that section does read that way.

I think it's worth pointing out that the reason I was upset was that I'd requested eight PD discs, four containing versions of Conway's 'Life'. In three cases the program name was 'Life', and the descriptions were such that I couldn't tell whether the programs were identical. I received none of the 'Life' discs.

I had found the discs in an old version of your catalogue (12 with updates to 12.4). I don't think I had the current (13.0) version when I requested them. I was not pleased to have to trawl through all the utilities discs looking for Life (and I found two discs with versions), when Life is a simulation, and belongs with Mandelbrot sets and the like, not utilities, and less pleased to find you no longer stocked the discs when I had found them.

Now I've calmed down I have no problem with fonts, clip art, etc., being in the catalogue. When you start hiding life programs on clip art discs then I will want them gone. (I'm not saying I've yet found one, and I hope I never will.)

You may be right about the catalogue improving lately. However there is a general problem in that if a person wants details of programs which relate to a given subject, they have to find a general heading, look through all the discs under that heading to see if what they want is there, and if not, or if they need everything on the subject, then they must look through all the discs in related headings, and any headings that just might be related. I guess the comparison I am making is with the Dewey decimal book classification system used in libraries. It has its faults (in particular, Von Daniken's ilk are shelved in the middle of the computer section because there were no computers in Dewey's time), but generally it's very good, because there is an exact position where items on a particular subject should be, and they are unlikely to be shelved far from where they should be. The phrase "PD Library" invites that comparison, and because there is as yet no such system for computer discs, PD libraries don't compare well to book libraries.

**Richard Court**

## VEK to GEM

John Henderson – Forum STA 33

**A** Don't know any way to convert VEK to GEM but the second option of CVG to GEM can be handled by Arabesque (from Compo) which can load and export either CVG or GEM files.

**Joe Connor CIX #507**

**A** And by Didot and DA's Vektor, of course.

**G Minnerup CIX #509**

## Copyright on Illustrations

Andrew South – Forum STA 32

**A** As a photographer, I have a direct interest in the copyright laws. The following points might be illuminating.

In this country, copyright in any 'work' – photograph, drawing, music, writing etc. – automatically comes into existence when the 'work' is created. This item, although aimed at publication in STA, is my copyright and needs my permission before it can be used elsewhere. For that reason, I would suggest that the copyright notice in STA is incomplete; it should state that the written (to be safe) permission of the author, as well as the publisher, is required.

It is an offence, knowingly or unknowingly, to reproduce, in any form, a 'work' on which copyright exists. Because a 'work' does not have a copyright notice attached does not necessarily mean that it is free of copyright – it could be an illegal copy. Copyright exists until 50 years after the death of the creator (a piece of Euro-nonsense is likely to make it 70 years). Any year given in a copyright notice has no bearing on the matter, as it really only indicates when the work came into existence.

The 1988 Copyright Act changed quite a lot of the existing law. Prior to the implementation of that act, basically the person/company commissioning a work held the copyright. Now, taking photographs as an example, the rights belong to the photographer, something advertising agencies don't like. The act also makes it mandatory for those reproducing a 'work' to credit the copyright holder.

It is not a good idea to give away any copyright you hold – PD software for example. Keep your copyright but, subject to any conditions you wish to impose, allow free reproduction, in this manner you maintain some control.

Andrew South, in the original piece on this subject – STA 32, queried the scanning of another's original then using that as the basis of his work. Two points arise. One, scanning the original may be a breach of copyright. Two, I would contend that unless the 'new' work was far removed from the original, he could be guilty of a different crime, plagiarism.

**David J Lindsay**

## Planetarium

**A** I wrote to you recently asking you to print a letter concerning "Planetarium" (UTI.185) which wouldn't load, but I can now let you know that the problem is solved.

In September 'ST Review' it states: "If you expand to four megabytes, you may find the odd program that doesn't like the extra free space and will not run....." – and that was the answer. I reduced the memory to one meg and all is well.

If you decide you want the text file I have offered, it has now been amended to take account of the above problem. The memory reduction was carried out with "Memory" on Disk Mag No.29.

**John N Davies**

## Registering Shareware

**I** As an incentive to get people to register IdeaList (reviewed in STA 33) I'm organizing (with the author's approval) a group UK registration – no need to worry about converting currencies, money order expense, etc.

The UK registration fee is £9. All registrations sent to me by the end of November will be converted to DM and sent to the author (Christoph Bartholme). You will then be sent the latest English version of IdeaList and supporting programs (such as IdeaBook), and be notified of future upgrades.

IdeaList 3.4 should be ready by then and will include:

✓ RTF import so you can print out files from most PC word-processors, as well as Atari-Works.

✓ Foot-line printing – add your own foot-line to the printout of any text file with directly-selectable text attributes.

✓ Import of First Word Plus head/foot lines

✓ Read ASCII lists for batch-printing with the printer-queue facility

✓ Enhanced interface with window-based dialogues (open several at once) and optional "dialogues at mouse position".

✓ Revised English manual.

Please make cheques payable to Sam Marshall and send them to: Malgrat Manor Park, Ruddington, Nottingham NG11 6DS.

Don't forget to include your own address! If you include an e-mail I'll acknowledge receipt immediately. Otherwise, please allow until mid-December to hear from Cristoph.

There are still many quality shareware applications being released in Germany. However, many authors report that UK registrations are poor, hence there is little incentive for them to translate their software into English (and we can't expect Joe Connor to do it all!). Good support for this arrangement will, I hope, help to convince other German authors that the translations are worth the extra effort.

**Sam Marshall**

**I** In STA 32 Stephen Aizlewood highlighted the problems of making shareware registration payments. The costs involved in acquiring and transferring small amounts of foreign currency are quite out of proportion. I doubt if your suggestion of Eurocheques is even cost effective, as it certainly is expensive to cash an incoming Eurocheque.

Each year, during November, I have access to a supply of US dollars, German DM and French francs. Any readers who feel they might like to purchase dollars, etc., should contact me on 0505 322650. The source of this foreign currency has been explained to the editor, and it is all legal. For my part, this is not a money-making exercise but all expenses must be covered, as the currency belongs to a small non-profit making organisation.

## Data Protection?

**Q** William Hern's plea for someone to set up a register of Falcon users and their interests is all very well, but I was surprised to find no mention of the Data Protection Act. Surely anyone trying to do what he did in 1986 today will run up against legal bureaucracy which forces them to register and get all sorts of permission before they can keep more than simple names and addresses on file?

**P Sutherland CIX #517**

**A** Well, I rang the Data Protection registrar's office this afternoon and asked the question. They are sending me a copy of the guidleines but the feeling of the person I spoke to was that this would come under the heading of an unincorporated club and would be exempt. The law requires that members are told that information will be held on computer and need to consent to this. I specifically asked whether the extra information such as machine configurations, etc., would be a problem, and no, you are not restricted to just names and addresses.

I will look at the guidelines more closely when they arrive but it seems to me that the Falcon Fun Club or whatever it is called needs only to publish its aims so that people applying to join will be consenting to the legal requirements.

**Roger Derry CIX #518**

**A** If the data is stored on a mailing list he will be exempt. This can also be applied to fidonet technology node listings. Checked with the registrar myself.

**Daron Brewood CIX #519**

## Calligrapher's Future

**I** Working Title say they no longer support Calligrapher. Does anyone now support it? If not, who now owns the source and is there anyone who could take it on?

Secondly, many thanks to the organisers of the Atari show at the Alexandra Palace. It was small but perfectly formed. When we arrived we thought that there were not many exhibitors, but they were all worthwhile, with some superb software and hardware. We arrived at 11am and left at 5pm, when tiredness overtook us, without seeing everything.

**Ian Baker**

## Publisher 2 and SpeedoGDOS

**I** I have SpeedoGDOS running with Timeworks 2 and no problems. The improvement so far is dramatic, although I've only been messing with it for a few hours – I'm sure problems await. Much faster and very good output from my DJ500.

But on my system you must have FONTWID 2.00. Version 2.01 won't have it at all. This may be the cause of Mr. Patterson's problem. I simply copied Fontwid.app, .rsc and .str from a set of masters bought in Dec 91 (before the maintenance release) over to my installation. I wonder if GST know; they also said TW won't run. ST Review September has more details (look closely at the photo's on page 15).

**Geoff Madden**

**I** Good news for all Timeworks Publisher users. I have just had a chat with GST about SpeedoGDOS. A new release of Timeworks Publisher 2 is on the way. But this is not official yet! As I understood it, it will not be a version 3 but just a version 2 that can work with SpeedoGDOS.

## Wish Lists

**Q** I have recently finished a course on learning BASIC and I have just started learning C and I am interested in writing desk accessories, but I haven't a clue what would be any use that isn't already around. I'd like to know whether in a future issue, half a page could be taken up with a questionaire for the readers to return to me, telling me what desk accessories they would find useful or if they would like better versions of current ones. If this is possible, could you send a reply with my order? Thanks very much.

**Jonathan Cram**

## Mouse Problems

**Q** I would like to know whether this a curable eccentricity of my mouse. I used to use an Atari mouse but, having replaced the microswitches twice, thought it time for a new one. And the "Speedmouse" is a joy to use – a button press is always acknowledged by the computer and does not need to be repeated.

But there is still an occasional problem which was one of the frustrations which led to changing the mouse. Sometimes the mouse only knows "up": whether you move the mouse up or down, the pointer just slides to the top of the screen. Less frequently the mouse only knows "down" with a similar result, except that you do not get stuck with an active menu item!

The problem may be the connectors – twiddling with them sometimes gets rid of the problem. But it would be nice to know if this could be the cause of the fault and whether it can be fixed, or whether it is simply a feature of the design of the computer, which gets moved around frequently as it changes from a business machine needing a keyboard to a toy with joystick and back again.

**Huw Williams**

## Floppy GNU C

**I** Readers may be interested to know that a hard disk is not necessary to run Gnu C on an ST. While a hard disk has obvious advantages, with a little care on a 2.5 MByte ST, it is possible to squeeze a large subset of Gnu C into a ramdisk, then use a: to hold source code.

There are several steps needed to make Gnu C fit into a ramdisk and still have enough free memory to run the compiler:

✓ Use a packer to pack the executables. I found ice-pack reduces the executables to about half their original size.

✓ Use maxidisk to create a ramdisk of about 850kBytes. This is a reset proof, compressing ramdisk, so with this size it can hold over 1 MByte of data.

✓ Trim down Gnu C by using a slightly older (and smaller) version. I use version 1.36, but some later versions would probably be ok. – Finally, choose only the most important libraries and header files to fit into the ramdisk.

I've been using a system with all the ANSI and Atari functions and most of the Unix functions from the 16-bit integer libraries for about 18 months now and would recommend it to any C programmer. For anyone who wants to try this without taking the time to set it up, I've submitted a 2 disk set to the ST Club PD library (disks LAN.151 and LAN.152). The first disk is a ready-to-go Gnu C system, the second disk contains the documents, utilities, debugger and some source code.

**Trevor Blight**

## Newsletter Forming

**I** Despite the best efforts of our 'informed ST commentators', the ST has survived for at least another month. I personally couldn't give a TOS if the games firms and high street stores move on to more profitable lines; the ST is still the best choice for anyone who needs a reliable work-horse, rather than a plaything.

Software and hardware are no substitute for creativity, and perhaps what's needed in our currently pared-down ST scene is a new focus for this creativity. Would anyone be interested in contributing to a writers and artists' newsletter that gave creative users the chance to offer criticism and mutual help? A writers' group for computer users?

The newsletter would appear on disc every couple of months and would contain all forms of writing, graphics, animation, creative criticism, relevant software reviews, feedback from readers and contributors, and, above all, the chance to show off your work to a wider audience. It could either be distributed via the Public Domain, or as a round-robin to contributors only. The more people who contact me, the more likely it is to happen.

Contact: The Bournemouth Bestiary, 51 St Luke's Road, Bournemouth, Dorset BH3 7LR.

**John Weller**

# Using GFA Basic

*Welcome to Part II of the GFA Basic series by Tim Finch.*

We start with an apology - somewhere between my trusty STe keyboard and printing of part I, listings 1.1 & 1.2 both had errors! Listing 1.1 was missing a **REM** statement at the start of the first line and Listing 1.2 shouldn't have had an **END** statement in it at all! Sorry - it may have caused confusion for any new programmers.

A note on Errors. When you are typing in, GFA may not understand what you type - you may have left out a certain key or spelt something wrong. If this is the case then a message appears on the menu bar informing you of the mistake, and you will have to correct it before continuing. This type of error is called a *syntax error*. The second type of error is a *run time error* and it occurs as GFA tries to run your program and it finds something it can't handle. The program will stop and you will be returned to the Editor screen. The cursor will be on the line with the problem and again a message will be in the menu bar telling you the problem. See pages 484 & 485 of the GFA V3 manual for a list of error messages.

Straight on today then with the next two topics - Variables and Controlled Looping.

### Pigeon holes

We start with variables. I was taught, at the age of ten I hasten to add, that the best way of understanding variables is to see them as pigeon holes. Fig 1 shows a box with a row of **names** on the top and **values** underneath. You can put information into these spaces and that value then belongs to that name. Let's consider a variable called 'total' as in Fig 1. We can put any number we like into that space (within certain limits). We can then reference that number by the name of the pigeon hole. Algebra is probably a word that immediately springs to mind - and it is algebra of course.

Once we have number variables set up in our program we can do many things with them. We can do all the normal mathematical operations such as add, subtract, multiplication, etc. We can also **PRINT the value** of that variable (pigeon hole) on the screen.

Variables fall into different categories. Essentially different types of pigeon hole can hold different types of information. We can store only numbers in the 'total' variable example above. To store letters and punctuation (with numbers) we need a different type of variable called the string. To denote a string we use the $ sign immediately after the name of the variable. A variable thus named 'info$' could hold text information, whilst a variable called 'info' could only hold numbers. (Incidentally, both 'info$' and 'info' would be treated separately by GFA Basic.)

Type in program Example 2.1 into GFA Basic V3. Lines 3 and 4 set up our pigeon holes. The number 20 is put into the pigeon hole called 'total'. This is what the = sign does for us. Similarly the words 'Hello from GFA Basic' are put into the pigeon hole 'info$'. Note that with string variables we have to encase the text we want to store in quotation marks.

### GFA's Calculator

The fifth line forces GFA to get its calculator out for us! This GFA sees the = sign and realises we need to put something into the variable 'answer'. But the value to put there needs to be calculated. This calculation is a multiplication and GFA Basic uses the * symbol to signify this. (We use + for addition, - for subtraction and / for division.) GFA has to multiply the number in 'total' by the number in 'total' - another words it has to multiply 20 by 20. Thus 400 is put into variable 'answer'.

### Report your answers, GFA

The next two lines print some things on the screen. However, you will notice a different layout to the PRINT command than in our first lesson! Everything inside the quotation marks is displayed exactly the same, but where 'total' and 'word$' appear, GFA substitutes the contents of those variables on the screen. Thus, when you run the program, GFA prints 'The two variables contain the values 20 and Hello from GFA Basic'. The semicolon (;) is used to say to GFA basic 'follow the next bit straight on from here on this line'.

The last line is similar and prints the value of 'total' followed by the words 'times by'. Again the value of 'total' is printed and the line finishes with 'is 400' (the value of 'answer'). Once the program ends, the 'Program End' box appears on screen and after clicking on OK you return to the editing screen.

### Controlled looping

OK, select NEW from the menu so that the editor screen clears. Now type in Example program 2.2. Note that there are a few differences in the way this program looks.

Run the program so that you can see what it does. Tap in a number when asked and press RETURN. At the end of the program you return to the Editor screen. This program is our first example of a controlled loop situation.

Let's look at it. The apostrophe is used instead of **REM** but means exactly the same. Some lines only have a single apostrophe on. This is simply to allow extra space in the listing to make readability better. Get into the habit now to leave generous spacing in your programs. (The second habit is to put REM statements everywhere throughout to remind you what each part does.) As before, the program starts by clearing the screen.

The **INPUT** statement, then, is used to get some information from the user. It works just like print in that whatever is contained within the quotation marks is displayed on the screen first. However, after this GFA prints a ? mark and then waits for the user to tap in something. Once the user taps this in and presses RETURN, GFA puts that information into the variable named at the end of the **INPUT** line. Thus the value you enter goes into the 'number' variable.

### Whatever next?

Then we get to the **FOR** line. This tells GFA we want to repeat something a certain number of times. We introduce a new variable called 'lupe' (we can't use the word LOOP - believe me!). We are saying that it needs to have all the values between 1 and, in this case, the value of 'number'. Now that seems a bit silly! How can it have ALL these values at the same time? Well, it doesn't. GFA simply sets 'lupe' to the first in that range - in this case 1. It then goes to the next line of the program, which **PRINT**s 'ST Applications' on the screen. The five spaces before the quotation mark are important, and so is the semicolon. The ! is another way of saying **REM** and so GFA ignores everything after a ! at the end of a line.

The first question for your 'homework' this issue is: "Can you work out why the spaces and semicolon are important in the PRINT statement?" (Hint : try changing the number of spaces, and try, separately, removing the semicolon and see what happens.)

After 'ST Applications' is printed on the screen, the **NEXT** command is encountered. This tells GFA to move the variable 'lupe' to next value in the range of 1 to 'number' so 'lupe' becomes the value '2'. GFA then moves back to the **FOR** line of the program and continues to read the program from that point again, and so ST Applications is printed again! When we get to **NEXT** again, 'lupe' is increased again. You can see that this continues until 'lupe' reaches the same value as 'number'. This time when we get to the **NEXT**, 'lupe' is made one bigger than the value of 'number'. Because this is outside of the range of 1 to 'number', GFA just now continues with the program from the line after **NEXT**. In this case it is **END** and so the program stops! We have thus controlled this loop to certain limits.

### Thinking caps on, all

That's it this issue, except to leave you your programming task. Write a program to print the 'seven times table'. You need to print on the screen something like '1 times 7 is 7' and so on until '12 times 7 is 84'. After you have written that, modify the program to ask the user which times table he/she wants with a question such as 'Which times table do you want?' and then print that table. Listings on next Disk Mag. See you next month!

```
REM Example Program 2.1
REM This program shows variables in operation
total=20
info$="Hello from GFA Basic"
answer=total*total
PRINT "The two variables contain the values ";total;" and ";info$
PRINT total;" times by ";total;" is ";answer
END
```

---

```
' Example Program 2.2
' This program shows a controlled loop situation
' using FOR and NEXT
'
CLS
INPUT "How many times shall we print ST Applications?";number
'
FOR lupe=1 TO number
  PRINT "ST Applications ";  ! There are 5 spaces after Applications
NEXT lupe
'
END
```

| answer | total | number | info$ |
|---|---|---|---|
| 400 | 20 | 67 | Hello All |

Fig. 1: Pigeon Holes, showing how variables are names that have values.

# Programmers' Forum

*In this month's edition of ST Applications' regular programming column, we find out how to handle .TNY picture files, clear up a NeoDesk bug on the Falcon, and look at on-line help presentation.*

### TNY picture files

In STA 32, *Programmers' Forum* printed a request from **Thomas A** for help with the .TNY picture format. I'm pleased to say that the column has received many offers of help, including code. In particular, many thanks are due to **John Phillips** of EasyPill Software, London; **Paul Margetson** of the Dolphin Software Group, Norwich; and **Geoff Smith** of Chilwell.

Owing to space constraints, we can't feature all of the code that was sent in. Listings 1 and 2 contain samples in Prospero C and GFA BASIC respectively that should satisfy most requirements. Since both listings include extensive commenting, no further explanation should be necessary.

### NeoDesk and the Falcon

One of the pleasant surprises about moving up to the Falcon030 was the high degree of software compatibility of major applications packages. However, in the Falcon versions of TOS, v4.0x, Atari have made alterations to the behaviour of the operating system, particularly GEMDOS, which have caused odd problems with some programs.

As an example, NeoDesk v3.03 works very well on the Falcon under TOS 4.02, with a small exception - it can't delete folders! The cause of this intensely annoying bug is a change in the way GEMDOS handles pathnames passed to the Ddelete() function. NeoDesk specifies folders for deletion using pathnames which include a trailing backslash. In previous versions of TOS, these were accepted and the deletion performed normally.

Under TOS 4, the pathname of the folder to be deleted is checked more strictly. The trailing backslash causes GEMDOS to reject the function call with an error code of -34 (path not found). As a stop-gap until a fixed version of NeoDesk appears, Listing 3 contains a small assembly language program that makes the problem go away.

The program is designed to be placed in the AUTO folder. When run, it installs a hook into the GEMDOS vector (trap 1), and makes itself resident, using standard techniques featured in this column before. The new GEMDOS vector handler catches all Ddelete() calls and checks the pathname before handing the call on to the operating system for execution. If any pathname has a trailing backslash, it is removed by overwriting the offending character with a zero.

This approach works very well in practice, but has a theoretical flaw. Our fix program works by altering data belonging to the calling program. If NeoDesk were to process the pathname string after the Ddelete() call in a way that relied on the presence of the trailing backslash, there could be problems. To make the program more robust, the new GEMDOS handler could reinstate the backslash after the Ddelete() call, using a method similar to that shown in Listing 3 last month.

### On-line help and menu items

On now to a couple of GEM interface questions. **Philip Taunton** writes from Eastleigh:

> *I am writing an assembler program that will eventually be a text editor. At present it has a resource file with a small menu bar and two dialogues. I intend to make it resolution- and TOS-independent and fully GEM-compliant. I have successfully written all the window-handling routines, but I am having trouble with timer events.*
>
> *My cursor flashes are linked to the timer part of evnt_multi(), but I continue to receive timer events when the mouse has dropped down a menu. This means that the cursor 'prints through' onto the drop-down menu. How do I detect when the mouse has opened a drop-down menu? Is there some message that I am missing?*

No, there is no message that indicates that the user has dropped a menu. All that happens is that the program's evnt_multi() loop stops receiving mouse-related events (mouse rectangles and button state events), because the AES screen manager has seized control of the mouse to conduct the menu interaction.

To stop the cursor printing through, the program could abandon the flashing cursor in favour of a steady cursor. However, with a little work, it is possible to detect when a menu interaction is in progress, and turn the cursor off during this period. We'll see how to do this in a moment.

Philip continues:

> *I'm sure this must be a fundamental problem, as every other application I have seen stops screen output when the menu bar has been activated, but I can't find any info on this. As an aside, which may be related to the above question, how do I detect when the mouse pointer is over any particular menu item? For example, this is done in Calamus's help mode.*

Developing this theme further, **Paul Margetson** concludes his letter about TNY pictures by asking:

> *I would like to know how Calamus and a few other GEM applications manage to detect which menu bar has been revealed and then which menu item has been highlighted? Whenever I've used a drop-down menu I've only received an event message when the menu item has been clicked on, not before.*

Obviously, this problem is taxing several readers. Philip is quite right to suggest a relation between his two questions. If a program can detect the highlighting of a menu item in order to print a help message, it could turn a flashing cursor off.

I have not seen the Calamus help mode, but it sounds similar to the operation of the DSP Debugger supplied as part of the Atari DocSupport VI package for the Falcon. The debugger prints a short help string at the bottom of the screen for each menu item as the user highlights it.

Listing 4 contains C code which duplicates this effect. It seems to work well under a variety of resolutions on a Falcon, and it even copes with the rapidly changing menu bars of MultiTOS! The software relies on the very feature of the event system that was causing Philip problems: timer events are still received during menu interactions.

The program defines a small menu tree, and sets up an event-driven loop that allows the user to interact with the menu. In this demonstration, only one menu item is active: 'Quit...'. The evnt_multi() loop waits for menu selection events as normal, but also includes a timer that ensures that the program regains control every 50 ms or so. On each timer event, the mouse position is checked to see if the pointer has moved. If so, display_help() is called to determine if a help message should be printed.

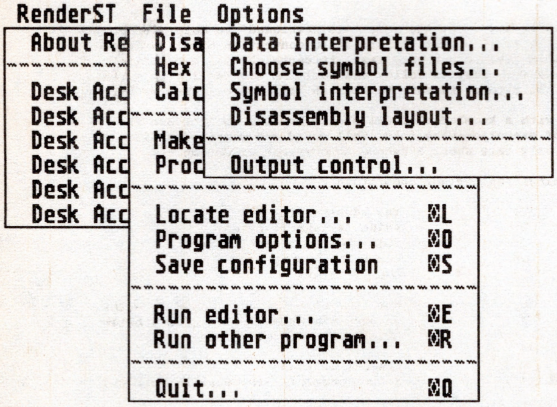
The task of display_help() is made difficult by the structure of AES menu trees. Because the objects that make up the drop-down menus often overlap, we can't simply use objc_find() to tell us which menu item the pointer is over (Figure 1). objc_find() will report the right-most menu item under the mouse, regardless of whether it is displayed or not.

To get around this, we make use of the fact that when the mouse pointer passes over an item in a drop-down menu, the item becomes highlighted, and acquires the SELECTED state. The function first checks whether the pointer is over one of the active menu titles, and chooses a help message if so. If not, it then scans each drop-down menu, including those which are not active, for an item which is both under the mouse pointer and highlighted. This is taken to be the item which the user is looking at, and a help message selected. As a final nicety, the printing code is only invoked if the help message is different to the one currently displayed.

The help messages are stored in an array of strings, which has one element for each object in the menu tree. Objects for which there is no help message are associated with a NULL string pointer. Another array is used to speed up the search for the active item: the array of DROP structures. Each drop-down menu has an element in this array, which links the index of the menu title object and the index of the G_BOX object that contains the list of menu items.

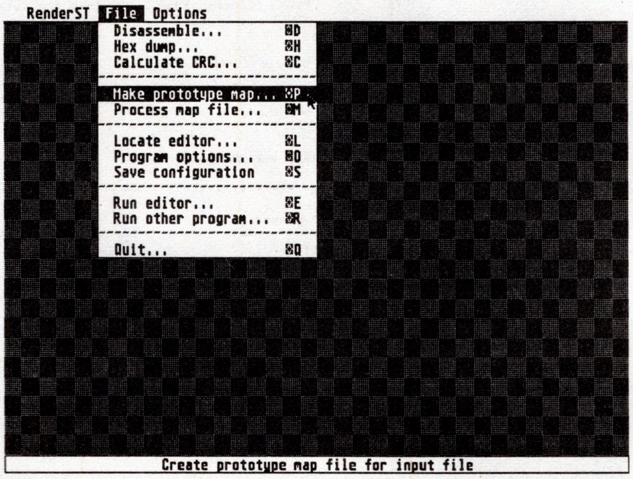
The help message is displayed in the middle of the screen, on the bottom line. A white background with a black border is produced using the v_bar() graphics primitive. The text is then displayed on top of this, aligned to the screen centre using a resolution-independent algorithm (Figure 2).

The problem of displaying on-line help strings is much more tractable if the help is only required for objects other than drop-down menus, because the AES screen manager is not involved. For example, Didot Professional uses a large icon tablet (Figure 3) in its user interface. Since this object is wholly controlled by the program, displaying on-line help is simply a matter of using one of the mouseposition rectangle events (MU_M1 or MU_M2) to track the mouse around, applying objc_find() to locate the icon under the mouse, and printing the appropriate help string.


RenderST File Options
About Re
Desk Acc
Desk Acc
Desk Acc
Desk Acc
Desk Acc
Desk Acc
Disa
Hex
Calc
Make
Proc
Data interpretation...
Choose symbol files...
Symbol interpretation...
Disassembly layout...
Output control...
Locate editor... ^L
Program options... ^O
Save configuration ^S
Run editor... ^E
Run other program... ^R
Quit... ^Q

◁ Figure 1

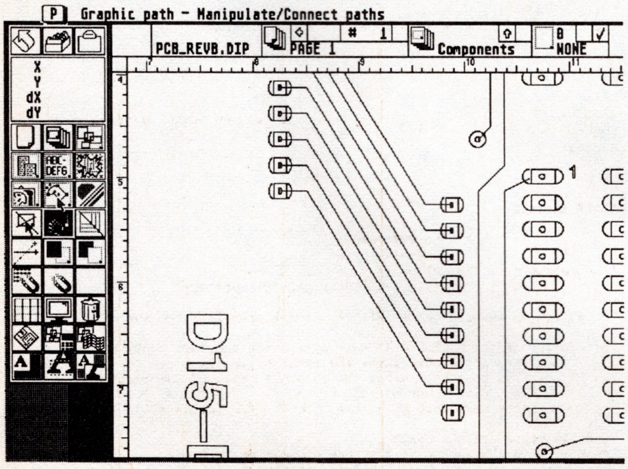
The drop-down menus of the standard AES menu tree structure are overlapping. The user never gets to see this as only one menu is ever dropped at a time.


RenderST File Options
Disassemble... ^D
Hex dump... ^H
Calculate CRC... ^C
Make prototype map... ^P
Process map file... ^M
Locate editor... ^L
Program options... ^O
Save configuration ^S
Run editor... ^E
Run other program... ^R
Quit... ^Q

Create prototype map file for input file

Figure 2 ▷

The on-line help package in action. The help message is printed in a box at the bottom of the screen, just like in the DSP Debugger package.


P
Graphic path - Manipulate/Connect paths
PCB_REVB.DIP
PAGE 1
Components
NONE
X
Y
dX
dY
D15

◁ Figure 3

Didot's on-line help system. Programming on-line help for an interface based on an icon tablet is easy...

## Next Month

Next month, ***Programmers' Forum*** will print more questions and tips from readers' letters. Keep the letters coming in - the more we receive, the better the column gets! Hints on any subjects, or questions about programming problems should be sent to the address below. All contributions, no matter how simple or advanced, are most welcome. Please include your address on the letter, so I can get back to you if anything in your contribution is unclear. Email addresses are useful too.

One last point, about email. Whilst I am very happy to receive contributions by email, please include your real name in the message, as cryptic alphanumeric user identifiers are not terribly useful. Please send a disk (or email) if there are large chunks of text or ASCII source code: I have no time to retype lots of material. Naturally, disks will be returned if an SAE is included.

Jon Ellis
Programmers' Forum
29 Ashridge Drive
Bricket Wood
St Albans
Hertfordshire AL2 3SR

Email: jonellis@uk.co.compulink.cix
(from JANET)
jonellis@cix.compulink.co.uk
(everywhere else)

```
Listing 1
=========

int read_tiny_file( char *pathname, char *char_ptr, int *colours )

/*----------------------------------------------------------------------*/
/*                                                                      */
/*  Reads the contents of the TINY format file given in pathname into   */
/*  memory begining at the byte pointed to by char_ptr. The appropriate */
/*  colour palette is not set up, instead it is passed back in the      */
/*  array colours so that Setpallete [ xbios(6) ] can be used later.    */
/*  This means that the picture can be loaded into a background display */
/*  display screen without altering the colours of the currently shown  */
/*  picture.                                                            */
/*                      Written by Geoff Smith                          */
/*                                                                      */
/*  The function returns the following values :-                        */
/*                                                                      */
/*          0 - File loaded sucessfully                                 */
/*          1 - Couldn’t open the file                                  */
/*          2 - TINY file is not for the current resolution             */
/*          3 - Couldn’t grab enough memory to read file contents       */
/*          4 - File isn’t a TINY file                                  */
/*----------------------------------------------------------------------*/

{
   int count, offset, data_count, end;
   int size[2];
   char res, data_type;
   FILE *t_file;
   char *control_start, *control_ptr, *end_of_control;
   register int *data_start, *data_ptr, *mem_loc;
   register int offset_loop = 0;
   register int offset_x = 0;

/* open file */
   if ( (t_file = fopen( pathname, "rb" )) == NULL ) return 1;

/* find out what resolution the file is for */
   fread( &res, sizeof(char), 1, t_file);
/* check if a valid resolution code */
   if ( res < 0 || res > 5 ) return 4;
/* check if resolution is the same as the current resolution */
   if ( res%3 != Getrez() ) return 2;

/* if there is animation information ignore it */
   if (res > 2) fread( size, sizeof(int), 2, t_file);

/* read the colour palette */
   fread( colours, sizeof(int), 16, t_file);
/* check the colour palette */
   for (count=0; count<16; count++)
    if (colours[count]<0 || colours[count]>0x777) return 4;

/* get size of control and data sections */
   fread( size, sizeof(int), 2, t_file);

/* grab some memory to read the data into */
   control_start = (char *)malloc(size[0]);
   if (!control_start) return 3;
   data_start = (int *)malloc(sizeof(int)*size[1]);
   if (!data_start) return 3;

/* read data into memory and then we can close the file */
   fread( control_start, sizeof(char), size[0], t_file);
   fread( data_start, sizeof(int), size[1], t_file);
   fclose( t_file );

/* convert the byte pointer supplied to a word pointer & set pointers */
   mem_loc     = (int *)char_ptr;
   control_ptr = control_start;
   data_ptr    = data_start;

/* initialise count of number of words written to memory */
   count = 0;

/* calculate end of control data */
   end_of_control = control_start + size[0];

/* read through each control byte */
   while (control_ptr < end_of_control)
   {
/* check if copying data or repeating data */
       if ( *control_ptr < 0 || *control_ptr == 1 )
          data_type = ’c’;
       else
          data_type = ’r’;

/* get number of words to copy or repeat */
       if ( *control_ptr < 0 || *control_ptr > 1 )
       {
          data_count = abs( *control_ptr );
          control_ptr++;
       }
       else
       {
/* copy two bytes to form an integer */
          memcpy( &data_count, control_ptr+1, 2 );
          control_ptr += 3;
       }

      end = count + data_count;
      for ( ; count<end; count++)
      {
         *(mem_loc) = *data_ptr;

/* if data is being copied advance data pointer after each integer */
         if (data_type == ’c’) data_ptr++;

         if (offset_loop != 199)
         {
            offset_loop++;
            mem_loc += 80;
         }
         else
         {
            offset_loop = 0;
            if (offset_x != 19)
            {
               offset_x++;
               mem_loc -= 15916;
            }
            else
            {
               offset_x = 0;
               mem_loc -= 15995;
            }
         }
      }
/* if data was repeated advance data pointer once finished */
      if (data_type == ’r’) data_ptr++;

   }

/* free up memory used */
   free( control_start );
   free( data_start );

   return 0;
}
```

```
Listing 2
=========

CLEAR
ON BREAK GOSUB reset
ON ERROR GOSUB reset
'
'                          ******************
'                          *                *
'                          *    TNY_FORM    *
'                          *                *
'                          ******************
'
'                             John Phillips
'                    EasyPill Software  -  Aug 1993
'          Outline program to display and cycle TNY format pics.
'                            Any Resolution
GOSUB main
'
' =======================================================================
'                              PROCEDURES
' =======================================================================
'
> PROCEDURE main
  '
  '    I’ve deliberatly kept the code ’old fashioned’ to help programmers
  '    who aren’t familiar with modern BASIC convert to other languages.
  '    The method used is not very fast, it certainly isn’t efficient,
  '    but it is very easy to follow and works in any resolution without
  '    change. No attempt is made to shorten the code or conserve memory.
  '
  '    Anyone with a knowledge of GFA should be able to increase the
  '    speed of execution many fold. Well coded and compiled a file
  '    should only take about a second to compress or decompress.
  '
  '    Some things you may not understand :
  '
  '    Prefix   V:            -  the address of
  '             L:            -  value is long (4 bytes)
  '             ~             -  VOID  Ignore return values
  '             &X            -  number is binary
  '             &H            -  number is hex
  '
  '    Suffix   &             -  word variables       -  signed 2 bytes
  '             %             -  integer variables    -  signed 4 bytes
  '                              often just general purpose
  '
  '    !                      -  Comment follows
  '    > PROCEDURE            -  Editor command, Procedure is ’pleated’
  '
  '    BLOAD filename,addr    -  load the file ’filename’ to address addr
  '    BMOVE addr1,addr2,len  -  move a block of len bytes from address
  '                              addr1 to address addr2.
  '
  '    RINSTR                 -  rightmost occurence in a string
  '
  '    PEEK,POKE              -  refers to a byte, any address
  '    DPEEK,DPOKE            -  refers to a word, even addresses only
  '
  '
  '    All variables are GLOBAL
  '
  ' ---------------------------------------------------------------------
  '
  GOSUB preset
  '
  REPEAT
    '
    FILESELECT p$,"",f$                              ! Select a file
    '
    p$=LEFT$(f$,RINSTR(f$,"\"))+"*.TN?"              ! Store current path
    '
    IF f$<>""                                        ! Not ’Cancel’
      '
      ext$=RIGHT$(f$,4)                              ! Extender
      '
      IF ext$=".TNY" OR ext$=".TN1" OR ext$=".TN2" OR ext$=".TN3"
        '
        BLOAD f$,buffer%                             ! Read file
        GOSUB install                                ! Install it
        '
      ELSE
        '
        ALERT 1," |  Unknown file type  ",1," O.K ",junk%
        '
      ENDIF
      '
    ENDIF
    '
  UNTIL f$=""                                    ! Quit on Cancel button
  '
  GOSUB reset
  '
RETURN
'
> PROCEDURE install
  '
  '                        The TNY format
  '                        ==============
  '    The header is either 37 bytes  (no palette cycling)
  '                      or 41 bytes  (with palette cycling)
  '
  '    First byte - resolution as XBIOS(4) or res plus 3 if cycling
  '
  '    if cycling the high nibble of next byte gives the left cycle limit
  '               the low nibble gives the right cycle limit
  '               the next byte gives the absolute value of the speed
  '               the sign gives the direction
  '               the next word gives the duration for use in slide shows
  '
  '    next 16 words are the palette
  '    next word is the length of the control section in bytes
  '    next word is the length of the data section in words (not used by
  '    this program)
  '
  '    Next follows a variable length block of control bytes and words
  '    and finally a variable length block of data words
  '
  '    The control block is essentially a list of instructions that
  '    tells you what to do with the words in the data block, how they
  '    are decoded is explained within the listing.
  '    Notice that this is different from compression systems such as
  '    PC? or IMG were the control codes are embedded within the screen
  '    data itself.
  '
  '      Be very careful to distinguish between BYTES and WORDS
  '      ======================================================
  '                                 -----
  '
  '    TNY treats the screen as 4 planes, each plane being 200 rows by
  '    20 columns of words, with the planes interleaved by column.
  '    This corresponds to a low res screen but is always used regardless
  '    of the actual resolution. You will save yourself a lot of confusion
  '    in other resolutions if you just treat row, column and plane as
  '    counters, don't try to relate them to actual scanlines and bit-
  '    planes, the code does not need to be changed in any way.
  '    The file is compressed column by column, one complete plane after
  '    another, with no break between planes. i.e. a control byte can
  '    operate on data words from more than one plane
  '
  ' --------------------------------------------------------------------
  '
  '                Sort out the header
  '                ÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿ
  '
  IF PEEK(buffer%) MOD 3=XBIOS(4)                    ! Correct resolution ?
    '
    pal_base%=buffer%+1                              ! Start of palette data
    '
    IF PEEK(buffer%) DIV 3<>0                        ! Animation present ?
      '
      pal_base%=pal_base%+4                          ! Adjust start of palette
      '
      l_limit%=PEEK(buffer%+1) DIV 16                ! Left limit
      r_limit%=PEEK(buffer%+1) MOD 16                ! Right limit
      '
      IF PEEK(buffer%+2) AND &X10000000              ! Direction (top bit set)
        way%=-1                                      ! <<<
        speed%=256-PEEK(buffer%+2)                   ! VBL's per cycle step
      ELSE
        way%=1                                       ! >>>
        speed%=PEEK(buffer%+2)                       ! VBL's per cycle step
      ENDIF
      '
      ssdt%=(256*PEEK(buffer%+3))+PEEK(buffer%+4)  ! Slide show display
      '                                                time in cycle steps
    ELSE
      way%=0                                         ! Turn off animation
    ENDIF
    '
    BMOVE pal_base%,pal%,32                          ! Transfer screen palette
    cntrl_len%=256*PEEK(pal_base%+32)+PEEK(pal_base%+33) ! number of bytes
    '                                                  in control section
    dat_len%=256*PEEK(pal_base%+34)+PEEK(pal_base%+35)   ! number of words
    '                                                    in data section
    cntrl_base%=pal_base%+36                ! Start address of control section
    dat_base%=cntrl_base%+cntrl_len%        ! Start address of data section
    '
    GOSUB decompress                                 ! Decompress the screen
    '
    IF way%<>0                                       ! Cycle the colours
      GOSUB animate
    ENDIF
    '
    ~INP(2)                                          ! Wait for key press
    '
  ELSE
    ALERT 1," |  Wrong resolution  ",1," O.K ",junk%
  ENDIF
  '
RETURN
'
> PROCEDURE decompress
  '
  '   You should do a bit of range checking on the header values
  '   here, you never know what nonsense you might get.
  '
  '   l_limit%          0 to 15
  '   r_limit%          0 to 15
  '   speed%            1 to 127         0 should be treated as 1
  '
  '   the speed value seems to be a bit of a loose area, this is the
  '   way TINYVIEW handles it, and fits with 'NeoChrome'
  '
  '   ssdt%             0 to 32767
  '
  '   cntrl_len%        3 to 10667  bytes
  '   dat_len%          1 to 16000  words
  '
  CLS
  '
  ~XBIOS(6,L:pal%)                              ! Set new palette
  '
  screen_ptr%=XBIOS(2)                          ! Next address in video RAM
  '
  '       See the note in PROC get_screen_ptr if you are not
  '         decompressing to a screen at the top of memory
  '
  cntrl_ptr%=cntrl_base%                        ! Next address in control block
  dat_ptr%=dat_base%                            ! Next address in data block
  '
  row%=0
  column%=0                                     ! Counters
  plane%=0
  '
  '           Be careful over odd and even addresses, only
  '           the screen pointer is guaranteed to be even
  '
  '     Notice in what follows that if c_byte% is 0 or 1 then the
  '     next control WORD is used for the loop, not c_byte% itself
  '
  REPEAT
    '
    c_byte%=PEEK(cntrl_ptr%)                    ! Next control byte
    INC cntrl_ptr%                              ! Adjust control pointer
    '
    IF c_byte%=0
      '
      '   Take the next data word and repeat it for the number of
      '   times given in the next control word
      '
      c_word%=(256*PEEK(cntrl_ptr%))+PEEK(cntrl_ptr%+1) ! Next cntrl word
      cntrl_ptr%=cntrl_ptr%+2                        ! Adjust control pointer
      d_word%=(256*PEEK(dat_ptr%))+PEEK(dat_ptr%+1)     ! Next data word
      dat_ptr%=dat_ptr%+2                            ! Adjust data pointer
      FOR n%=1 TO c_word%                            ! Repeat it c_word% times
        DPOKE screen_ptr%,d_word%
        GOSUB get_screen_ptr                        ! Adjust screen pointer
      NEXT n%
    ELSE IF c_byte%=1
      '
      '   Use successive data words for the number of times
      '   given in the next control word
      '
      c_word%=(256*PEEK(cntrl_ptr%))+PEEK(cntrl_ptr%+1) ! Next cntrl word
      cntrl_ptr%=cntrl_ptr%+2
      FOR n%=1 TO c_word%                                  ! Do c_word% times
        d_word%=(256*PEEK(dat_ptr%))+PEEK(dat_ptr%+1)
        dat_ptr%=dat_ptr%+2
        DPOKE screen_ptr%,d_word%                       ! Use next data word
        GOSUB get_screen_ptr
      NEXT n%
    ELSE IF c_byte%>1 AND c_byte%<128
      '
      '   Take the next data word and repeat it for the number
      '   of times given by the control byte
      '
      d_word%=(256*PEEK(dat_ptr%))+PEEK(dat_ptr%+1) ! Next data word
      dat_ptr%=dat_ptr%+2
      FOR n%=1 TO c_byte%                            ! Repeat it c_byte% times
        DPOKE screen_ptr%,d_word%
        GOSUB get_screen_ptr
      NEXT n%
    ELSE IF c_byte%>128                                ! Equiv.  -127 to -1
      '
      '   Use successive data words for the number of times
      '   given by the absolute value of the control byte
      '
      FOR n%=1 TO 256-c_byte%                          ! Do absolute c_byte%
        d_word%=(256*PEEK(dat_ptr%))+PEEK(dat_ptr%+1)      ! times
        dat_ptr%=dat_ptr%+2
        DPOKE screen_ptr%,d_word%                      ! Use next data word
        GOSUB get_screen_ptr
      NEXT n%
    ENDIF
    '
  UNTIL cntrl_ptr%=dat_base%
  '
RETURN
> PROCEDURE get_screen_ptr
  '
  INC row%                                        ! Next row
  '
  IF row%=200                                     ! Row finished
    row%=0                                        ! Reset row
    INC column%                                   ! Next column
    IF column%=20                                 ! Column finished
      column%=0                                   ! Reset column
      INC plane%                                  ! Next plane
      IF plane%=4 AND cntrl_ptr%<>dat_base%
        '
        '   Check where the screen pointer is, a lot of TNY files will
        '   over run the end of screen memory. This is o.k if you are
        '   decompressing to the screen, but could be fatal if you are
        '   decompressing to main memory, (usually just an extra word)
        '   Remove the Alert Box if it gets annoying and just jump out
        '   of the loops.
        '
        ALERT 1," |  Error - you are about  |  to write past the end|    of screen
memory",1," Cancel ",junk%
        n%=12345678                              ! Jump out of FOR .. NEXT
        cntrl_ptr%=dat_base%                     ! Jump out of REPEAT .. UNTIL
        '
      ENDIF
    ENDIF
    screen_ptr%=XBIOS(2)+(2*plane%)+(8*column%)     ! Next screen address
  ELSE
    screen_ptr%=screen_ptr%+160                     ! Next screen address
  ENDIF
  '
RETURN
'
> PROCEDURE animate
  '
  v_ssdt%=ssdt%*speed%                      ! Duration in VBL's
  '
  BMOVE pal%,cycle_pal%,32                  ! Transfer screen palette
  '
  cpl%=cycle_pal%+2*l_limit%                ! Start address for cycling
  cpr%=cycle_pal%+2*r_limit%                ! End address for cycling
  diff%=cpr%-cpl%                           ! Cycling length in bytes
  '
  t%=1                                      ! Loop counter
  '
  WHILE t%<v_ssdt% AND (NOT GEMDOS(11)) ! Time out or key press to exit
    '
    IF t% MOD speed%=0                      ! Once every speed% times
      '
      IF way%=1
        temp%=DPEEK(cpr%)                   ! Save top value
        BMOVE cpl%,cpl%+2,diff%             ! Move up
        DPOKE cpl%,temp%                    ! POKE it in at bottom
      ELSE
        temp%=DPEEK(cpl%)                   ! Save bottom value
        BMOVE cpl%+2,cpl%,diff%             ! Move down
        DPOKE cpr%,temp%                    ! POKE it in at top
      ENDIF
      '
      ~XBIOS(6,L:cycle_pal%)                ! Set adjusted palette
      '
    ENDIF
    '
    INC t%                                  ! Increase counter
    '
    VSYNC                       ! Wait until next VBL, this is the
    '                                 timing element in the loop
  WEND
  '
  ~XBIOS(6,L:pal%)                          ! Reset screen palette
  '
RETURN
'
> PROCEDURE preset
  '
  $m 72000                                        ! Compiler directive
  '                                                 reserve space
  CLS
  HIDEM
  '
  DIM orig_pal&(15)                                 ! 16 words
  FOR n%=0 TO 15
    orig_pal&(n%)=XBIOS(7,n%,-1) MOD 4096           ! Original palette
  NEXT n%
  '
  DIM work_space%(8127)                             ! At least 32044 bytes
  buffer%=V:work_space%(0)                          ! Start address
  '
  DIM pal&(15)                                      ! Screen palette 16 words
  pal%=V:pal&(0)                                    ! Start address
  '
  DIM cycle_pal&(15)                                ! Cycling palette 16 words
  cycle_pal%=V:cycle_pal&(0)                        ! Start address
  '
  '   All number arrays are continuous blocks
  '   of memory starting on an even address
  '
  p$="A:\*.TN?"                                     ! Initial path
  '
RETURN
> PROCEDURE reset
  '
  CLS
  SHOWM
  '
  ~XBIOS(6,L:V:orig_pal&(0))                        ! Put back palette
  VSYNC                                             ! Let it register
  '
  END
  '
RETURN
```

```
**
** Listing 3.
** Programmers' Forum STA 35 (November 1993)
**
** Program to fix a very annoying piece of NeoDesk v3.03
** behaviour on the Falcon.  It seems that in the latest
** version of GEMDOS, Atari have altered Ddelete so that
** pathnames with a trailing backslash are rejected, causing
** the deletion to fail. This patch traps Ddelete calls
** and zeros out any trailing backslash.  Note that since it
** alters data in the caller's space, there is a potential
** incompatibility.  However, it seems to work OK for NeoDesk.
**
** Assembler system: MCC ASSEM v12
** Written on 20th July 1993
**


**
** Define symbols used by the program.
**

GEMDOS    equ        1
Cconws    equ        $09
Super     equ        $20
Ptermres  equ        $31
Rmdir     equ        $3A

**
** System variables...
**

trapl                equ      $0084     GEMDOS trap handler
_longframe           equu     $059E     0 for 68000 stack-frames


          TEXT

**
** The program starts by jumping to the installation code,
** at the end of the file.  This allows us to make only the
** minimum code resident.
**

start     bra        install(pc)          Install the program.


;================================================================================
**
** The resident GEMDOS trap handler.
**

          dc.l       'XBRA'               XBRA vector header.
          dc.b       'NFix'               Our identifier.
old_vec   dc.l       0                    Place for old vector

handler   lea        6(sp),a0             Address the arguments on the stack.
          tst.w      _longframe.w         Is the processor a 68000 ?
          beq.s      1$                   Skip on if so.
          addq.l     #2,a0                Account for extra word on long stack.
1$        btst       #13,(sp)             Called from supervisor mode ?
          bne.s      2$                   Skip on if so, argument ptr is OK.
          move       USP,a0               Get arguments off user stack.
2$        cmp.w      #$003A,(a0)          Request to delete directory ?
          bne.s      4$                   Skip to do it if not.

          move.l     2(a0),a0             Get pointer to pathname.
3$        move.b     (a0)+,d0             Scan along the filename.
          bne        3$                   Loop until null terminator hit.
          move.b     -2(a0),d0            Fetch the preceding character.
          cmp.b      #'\',d0              Is it a trailing backslash ?
          bne.s      4$                   Skip on if not - it's OK.
          clr.b      -2(a0)               Zap it.

4$        movea.l    old_vec,a0           Fetch address of next GEMDOS handler
          jmp        (a0)                 and hand the call off.


;================================================================================
**
** The installation code portion.
**

install   clr.l      -(sp)                We need to do the installation
          move.w     #Super,-(sp)         in supervisor mode, so enter now.
          trap       #GEMDOS
          addq.l     #6,sp
          move.l     d0,a6                Copy the old SSP.
          pea        banner(pc)           Print the sign-on message.
          move.w     #Cconws,-(sp)
          trap       #GEMDOS
          addq.l     #6,sp

          move.l     trapl.w,old_vec      Install our vector handler.
          move.l     #handler,trapl.w
          move.l     a6,-(sp)             Return to user mode.
          move.w     #Super,-(sp)
          trap       #GEMDOS
          addq.l     #6,sp
          move.l     #install,d0          Address of first byte to trash.
          sub.l      4(sp),d0             Calculate length of block to leave.
          clr.w      -(sp)                Zero return code.
          move.l     d0,-(sp)             Size to keep resident.
          move.w     #Ptermres,-(sp)      Terminate and stay resident.
          trap       #GEMDOS

;================================================================================
**
** Data area for installation code.
**

banner    dc.b       13,10,13,10,'NeoDesk Folder Delete Fix v1.00',13,10
          dc.b       'by Jon Ellis, 3 August 1993',13,10,13,10,0

          END
```

```
Listing 4
=========

/*
** Listing 4.
** Programmers' Forum STA 35 (November 1993)
**
** Program illustrating a simple method for displaying
** help strings for menu items.
**
** Compiler system: Lattice C v5.52
** Compile options: -cargfku
**  Meaning: Enable ANSI mode, disable trigraphs, enable
**           non-ANSI keywords, assume unsigned chars
** Link with C.O and LC.LIB
** Written on 2nd September 1993
*/

#include <aes.h>
#include <portab.h>
#include <string.h>
#include <vdi.h>


/*
** Define structure to speed up searches for active
** menu items.  The structure defines two members:
** 'drop_title' which contains the index of
** the menu title object, and 'drop_box' which contains
** the index of the G_BOX that bounds the menu items in
** the drop down.
*/


typedef struct {
                int drop_title;
                int drop_box;
               } DROP;


/*
** Prototype the functions.
*/

int main(int,char **,char **);
int initialise_GEM(void);
void initialise_resource(void);

void display_help(OBJECT *,DROP *,char **,int,int);
void draw_help_box(void);
void update_help_box(char *);


/*
** Declare the global variables...
*/

short ap_id;                               /* AES application identifier         */
short handle;                              /* VDI virtual workstation handle     */
short char_width, char_height;             /* Default font dimensions            */
short screen_width, screen_height;         /* Screen dimensions in pixels        */
short screen_planes;                       /* Number of colour planes            */

short help_box[4];                         /* VDI definition of help box         */


/*
** The menu tree defined by the program...
*/

OBJECT menu_tree[] = {
/*0*/   {-1,1,6,G_IBOX,0x0,0x0,(void *)0x0,0,0,80,25},
/*1*/   {6,2,2,G_BOX,0x0,0x0,(void *)0x1100,0,0,80,513},
/*2*/   {1,3,5,G_IBOX,0x0,0x0,(void *)0x0,2,0,25,769},
/*3*/   {4,-1,-1,G_TITLE,0x0,0x0," RenderST", 0,0,10,769},
/*4*/   {5,-1,-1,G_TITLE,0x0,0x0," File ", 10,0,6,769},
/*5*/   {2,-1,-1,G_TITLE,0x0,0x0," Options", 16,0,9,769},
/*6*/   {0,7,32,G_IBOX,0x0,0x0,(void *)0x0,0,769,80,19},
/*7*/   {16,8,15,G_BOX,0x0,0x0,(void *)0xff1100,2,0,22,8},
/*8*/   {9,-1,-1,G_STRING,0x0,0x0,"  About Render...", 0,0,22,1},
/*9*/   {10,-1,-1,G_STRING,0x0,0x8,"----------------------", 0,1,22,1},
/*10*/  {11,-1,-1,G_STRING,0x0,0x0,"  Desk Accessory 1  ", 0,2,22,1},
/*11*/  {12,-1,-1,G_STRING,0x0,0x0,"  Desk Accessory 2  ", 0,3,22,1},
/*12*/  {13,-1,-1,G_STRING,0x0,0x0,"  Desk Accessory 3  ", 0,4,22,1},
/*13*/  {14,-1,-1,G_STRING,0x0,0x0,"  Desk Accessory 4  ", 0,5,22,1},
/*14*/  {15,-1,-1,G_STRING,0x0,0x0,"  Desk Accessory 5  ", 0,6,22,1},
/*15*/  {7,-1,-1,G_STRING,0x0,0x0,"  Desk Accessory 6  ", 0,7,22,1},
/*16*/  {32,17,31,G_BOX,0x0,0x0,(void *)0xff1100,12,0,28,15},
/*17*/  {18,-1,-1,G_STRING,0x0,0x0,"  Disassemble...         \aD", 0,0,28,1},
/*18*/  {19,-1,-1,G_STRING,0x0,0x0,"  Hex dump...            \aH", 0,1,28,1},
/*19*/  {20,-1,-1,G_STRING,0x0,0x0,"  Calculate CRC...       \aC", 0,2,28,1},
/*20*/  {21,-1,-1,G_STRING,0x0,0x8,"----------------------------", 0,3,28,1},
/*21*/  {22,-1,-1,G_STRING,0x0,0x0,"  Make prototype map... \aP", 0,4,28,1},
/*22*/  {23,-1,-1,G_STRING,0x0,0x0,"  Process map file...    \aM", 0,5,28,1},
/*23*/  {24,-1,-1,G_STRING,0x0,0x8,"----------------------------", 0,6,28,1},
/*24*/  {25,-1,-1,G_STRING,0x0,0x0,"  Locate editor...       \aL", 0,7,28,1},
/*25*/  {26,-1,-1,G_STRING,0x0,0x0,"  Program options...     \aO", 0,8,28,1},
/*26*/  {27,-1,-1,G_STRING,0x0,0x0,"  Save configuration     \aS", 0,9,28,1},
/*27*/  {28,-1,-1,G_STRING,0x0,0x8,"----------------------------", 0,10,28,1},
/*28*/  {29,-1,-1,G_STRING,0x0,0x0,"  Run editor...          \aE", 0,11,28,1},
/*29*/  {30,-1,-1,G_STRING,0x0,0x0,"  Run other program...   \aR", 0,12,28,1},
/*30*/  {31,-1,-1,G_STRING,0x0,0x8,"----------------------------", 0,13,28,1},
/*31*/  {16,-1,-1,G_STRING,0x0,0x0,"  Quit...                \aQ", 0,14,28,1},
/*32*/  {6,33,38,G_BOX,0x0,0x0,(void *)0xff1000,18,0,28,6},
/*33*/  {34,-1,-1,G_STRING,0x0,0x0,"  Data interpretation...", 0,0,28,1},
/*34*/  {35,-1,-1,G_STRING,0x0,0x0,"  Choose symbol files...", 0,1,28,1},
/*35*/  {36,-1,-1,G_STRING,0x0,0x0,"  Symbol interpretation...", 0,2,28,1},
/*36*/  {37,-1,-1,G_STRING,0x0,0x0,"  Disassembly layout...", 0,3,28,1},
/*37*/  {38,-1,-1,G_STRING,0x0,0x8,"----------------------------", 0,4,28,1},
/*38*/  {32,-1,-1,G_STRING,0x20,0x0,"  Output control...", 0,5,28,1},
};


/*
** The array of help strings for the menu items.
** We need one entry for each object in the menu
** tree.  Objects for which there is no help string
** should be associated with a NULL entry.
*/

char *help[] =
    {
    NULL,NULL,NULL,
    "Desk menu","File operations menu","Program operation options menu",
    NULL,NULL,
    "Program information",NULL,NULL,NULL,NULL,NULL,NULL,NULL,
    NULL,
    "Disassemble block of code","Produce hex dump","Calculate checksum of file",
    NULL,"Create prototype map file for input file",
    "Disassemble according to map file",NULL,"Find test editor program",
    "Basic program options","Save program configuration and settings",
    NULL,"Invoke text editor","Execute external program",NULL,
    "Exit program and return to desktop",
    NULL,
    "Settings affecting data interpretation","Locate symbol files on disk",
    "Settings affecting symbol usage","Specify layout for output data",
    NULL,"Specify output destination"
    };


/*
** Define the array linking menu titles and drop-down
** menu boxes.  Each menu should have an entry in this
** table which is terminated by an element set to
** {NIL,NIL} where NIL is defined in AES.H as -1.
*/


DROP boxes[] = {{3,7},{4,16},{5,32},{NIL,NIL}};


/*
** The program starts here...
*/

int main(argc,argv,envp)

int argc;
char **argv, **envp;

{
    short pipe[8];
    short mx, my, button, shift, key, ox, oy;
    int event_map;

    if (initialise_GEM() == FALSE)
        return(0);
    initialise_resource();

    menu_bar(menu_tree,TRUE);
    draw_help_box();
    graf_mkstate(&mx,&my,&button,&shift);
    ox = mx;
    oy = my;
    while(TRUE)
        {
        event_map = evnt_multi(MU_TIMER|MU_MESAG,1,1,1,
                               0,0,0,0,0,
                               1,mx,my,1,1,
                               pipe,
                               50,0,
                               &mx,&my,&button,&shift,&key,&button);
        if ((event_map & MU_TIMER) && (mx != ox || my != oy))
            {
            ox = mx;
            oy = my;
            display_help(menu_tree,boxes,help,mx,my);
            }
        if (event_map & MU_MESAG)
            if (pipe[0] == MN_SELECTED)
                {
                menu_tnormal(menu_tree,pipe[3],1);
                if (pipe[3] == 4 && pipe[4] == 31)
                    break;
                }
        }
    menu_bar(menu_tree,FALSE);

    v_clsvwk(handle);
    appl_exit();
    return(0);
}


/*
** Function to initialise the GEM system for the program.
** The application is registered with the AES, and a VDI
** virtual workstation is opened.  The function returns TRUE
** if all is OK, or FALSE if not, in which case the program
** should terminate immediately.
**
** Usage:   success = initialise_GEM();
**
**          int initialise_GEM(void);
*/

int initialise_GEM(void)

{
    short physical_handle, dummy;
    short work_out[57];
    short work_in[11] = {1,1,1,1,1,1,1,1,1,1,2};

    if ((ap_id = appl_init()) == -1)
        return(FALSE);
    physical_handle = graf_handle(&char_width,&char_height,&dummy,&dummy);
    handle = physical_handle;
    v_opnvwk(work_in,&handle,work_out);
    if (handle == 0)
        return(FALSE);
    screen_width = work_out[0] + 1;
    screen_height = work_out[1] + 1;
    vq_extnd(handle,1,work_out);
    screen_planes = work_out[4];
    graf_mouse(ARROW,0);
    return(TRUE);
}


/*
** Function to initialise the resource tree structure
** ready for use.  There are no arguments and no return
** values.
**
** Usage:   void initialise_resource(void);
*/

void initialise_resource(void)

{
    int f;

    for (f=0; f<39; f++)
        rsrc_obfix(menu_tree,f);
}


/*
** Function to handle the display of help strings.
** The arguments are pointers to the menu object
** tree; the drop-down box lookup table; the array
** of help strings, and the current position of the
** mouse. There are no returns.
**
** Usage:   display_help(menu,drops,help,x,y);
**
**          void display_help(OBJECT *,DROP *,char **,int,int);
*/

void display_help(menu,drops,help,mx,my)

OBJECT *menu;
DROP *drops;
char **help;
int mx, my;

{
    static char *otext = NULL;
    register int obj;
    register char *text;
    register DROP *dptr;

    if ((obj = objc_find(menu,0,MAX_DEPTH,mx,my)) != NIL)
        {
        if ((menu+obj)->ob_type != G_TITLE)
            {
            for (dptr=drops,obj=NIL; dptr->drop_title != NIL; dptr++)
                if ((menu+dptr->drop_title)->ob_state & SELECTED)
                    {
                    obj = objc_find(menu,dptr->drop_box,MAX_DEPTH,mx,my);
                    break;
                    }
            }
        else if (!((menu+obj)->ob_state & SELECTED))
            obj = NIL;
        }
    text = (obj == NIL) ? NULL : *(help+obj);
    if (text != otext)
        {
        otext = text;
        update_help_box(text);
        }
}


/*
** Function to draw the help box at the bottom
** of the screen.  There are no arguments and
** no return values.
**
** Usage:   void draw_help_box(void);
*/

void draw_help_box(void)

{
    short junk;

    vst_alignment(handle,0,5,&junk,&junk);
    vsf_perimeter(handle,1);
    vsf_interior(handle,FIS_HOLLOW);
    help_box[0] = 0;
    help_box[1] = screen_height - char_height - 2;
    help_box[2] = screen_width - 1;
    help_box[3] = screen_height - 1;
    v_bar(handle,help_box);
}


/*
** Function to update the help box at the base of
** the screen to include the current help text.
** The argument is a pointer to a help string to
** be placed in the box.  There are no returns.
**
** Usage:   update_help_box(text);
**
**          void update_help_box(char *);
*/

void update_help_box(text)

char *text;

{
    register int tx;

    if (text == NULL)
        text = "";
    tx = (screen_width / 2) - ((char_width * strlen(text)) / 2);
    tx -= tx % 8;
    v_bar(handle,help_box);
    v_gtext(handle,tx,help_box[1]+1,text);
}
```

# CAD Column

*After almost three years Joe Connor feels the need for a change in direction....*

During the lifetime of this Column Atari has lost all credibility as a platform for CAD. It's traditional at this point to blame Atari, and there's no doubt a faster, cheaper machine would have slowed the demise, but (at least as far as CAD is concerned) in all probability the demise was unstoppable. The irresistible attraction of Windows to CAD developers was mainly to blame and it's pretty much killed off the CAD market on other platforms as well. It's particularly disappointing because whatever plus points Windows has to offer speed is not amongst them. The demands made by Windows on the hardware is so high even my PC 486DX33 isn't much faster than my 1987 vintage Mega ST (with AdSpeed and NVDI) at moving graphics around the screen.

Once upon a time, as in all good fairy tales, large corporations such as Microsoft and Wordperfect were attracted to Atari, but did you know that Drafix, currently one of the most popular Windows CAD Applications, also marketed an Atari version?

Atari attracted newcomers like bees round a honey pot. Companies such as Ditek and Technobox saw the 68000/GEM combination as an alternative to the Mac platform.

Microsoft, meanwhile, were busy transforming the PC market, giving the grey suits a new toy to play with: Windows, a WIMP environment similar to GEM. To this day I'm puzzled how Windows succeeded where GEM failed but as a CAD professional I'm pre-programmed to follow the hottest game in town. I kitted myself out with a PC, installed DynaCADD and sat back fully expecting Atari to come up with fast, elegant new models. I'm still waiting. The TT was late, under-specified, too expensive and laughably ugly. A couple of years later and the outlook is bleak, with no fairy tale ending in sight. Companies such as Ditek and Technobox moved over to Windows development long ago (the Atari versions are an aberration). Windows is where it's at and I doubt if MultiTOS versions will ever appear, although I'd love to be proved wrong.

## Are we downhearted?

From your leters and comments on CIX I'm pleasantly surprised to see that the Atari market-place is generally making sensible adjustments to take into account the reality of surviving is a small niche market. The Falcon has helped - it's not going to raise the dead but it offers enough advantages over the ST range to tempt many of the developers to give Atari one last chance. It's easy to forget just how intuitive GEM is. The newer TOS versions combined with the programming extensions such as flying dialogs and pop-up menus really are superb.

Whilst there's not much new in CAD arena it's very encouraging to see that a good proportion of software developed for the Falcon runs happily on other Atari models, thus extending the longevity of these machines. Atari finally got it right, too late probably, but right nevertheless!

A large proportion of this new software is German and Shareware which means we all need to enrol for German evening classes or get involved and encourage English conversions. Over the last few months I've been busy doing just that and after discussions with the authors concerned I have arranged several group registration schemes along the lines of the one last month for Kandinsky.

The CAD Column will extend its coverage to include commercial quality Shareware products whilst continuing to report any developments of interest to CAD enthusiasts. The column has in recent months already adopted a broader approach to cover graphics applications and I'm pleased to report more interest than ever before! I'd particularly like to thank the people who have written to me regularly over the years. As you know, many of the ideas for items featured in the column were inspired by your letters and I look forward to reading some feedback from a few new readers as well over the next few months.

The products I've translated are all in my opinion unmissable, largely because there's no way I would spend weeks translating a package I didn't like. You might be tempted to accuse me of bias but that's where Shareware offers an advantage over commercial software: try it for yourself before you buy! Most of the disks can be obtained from the ST Club (unless the author forbids commercial distribution) and if you like the software you can easily register with the author via the CAD Column.

This brings me onto the Shareware nature of these packages. Despite persistent encouragement from reviewers and PD Libraries, most Shareware just doesn't get registered. Often the excuse for not registering 'foreign' Shareware is the lack of local support and registration but you can't use that one anymore.

It's going to become increasingly difficult to justify turning software into fully packaged commercial products and the only realistic alternatives for the authors is to either stop writing the software or to release it as Shareware.

If you don't register this commercial quality Shareware stuff this is what will happen. First, if the response to the group registrations is poor, I simply won't organise them anymore. Secondly, the German authors of these excellent packages won't bother with English versions as they usually get around ten times more registrations from German users. Shortly after this my Atari goes up in the loft next to my Vic20, drawing board and pile of ST Worlds. I've been here before.

## So what's in the pipeline?

If you have any suggestions for packages you would like to see translated and featured in the column send them to me at the usual address. I've already received several suggestions and am following these up with the authors.

Everest: a text editor; we all need a fast, simple, compatible text editor and there's no doubt in my mind Everest is the best available. If you're a programmer, there's some extra tools you are going to love:

*Selectric:* an alternative file selector; if you like UIS then you'll love Selectric. A similar range of options wrapped up in a tasty interface.

*Two in One:* a GEM front end for the popular archive format LZH. STZIP made archiving accessible to everyone - no TTP parameters to contend with, simple point and click. Two in One does a similar job for LZH.

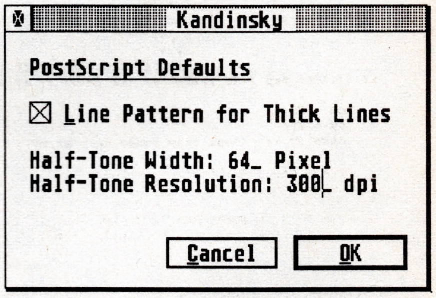
*Kandinsky:* I know, I've mentioned this in last month's STA. These authors are very active, with new versions of these packages being made available every few weeks. This alone makes it more important than ever to register your copy.

Naturally I'll keep you informed of the latest versions of all the packages supported via the Column (a version list probably). New features and major updates will be highlighted so you'll always know when to send in for an update. You don't normally get this kind of support for Shareware so please do register. You do your bit and I'll continue to do mine!

I would like to make it clear that apart from my fee for writing this column I make no money whatsoever from any of the packages featured in the column. I have been offered a small percentage of the Kandinsky Shareware fee to produce a printed English manual and in such cases my involvement will be made clear both in the Column and the documentation accompanying the package concerned.

The limit of the involvement of the ST Club is the supply of the Shareware material, where permitted by the author, and the continuing support for this column.

## Kandinsky Update



PostScript Defaults

☒ Line Pattern for Thick Lines

Half-Tone Width: 64_ Pixel
Half-Tone Resolution: 300_ dpi

*Kandinsky* is up to V1.55, available from the ST Club on Disk GRA.184. Here's a brief summary of the main changes since V1.39 featured in STA 32:

- Aspect ratio can be maintained when sizing objects.
- Numerous improvements to SpeedoGDOS compatibility.
- Numerous enhancements to PostScript output, including Colour handling, options dialog and filled Bézier curve handling.
- Registration using Key method, enables everyone with access to a BBS to download the latest Shareware version and unlock the full Registered version by entering their personal key.
- Support for WINX 2.1, auto-topping of Kandinsky windows and numerous bug fixes.
- Improved vector and bitmap text handling, including cursor, re-editing of existing text.

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## For Sale

That's Write 2.07 £60, ST Basic £8, UVK £5. Games: Epic £8, Wolfchild £8, Super Pro Zipstick (Unused) £8. All items in original boxes + manuals. Books: Atari Tricks & Tips, ST Explored, Official AES & VDI Manuals, Introducing Assembler (+ software). Books at £6 each. Also some magazines with coverdisks at £1.50 each. ST Format, User etc. Prices do not include p & p. Contact Allen Fareham (0329) 282988. (35)

Power Computing Series 48MB hard drive – £150. Hisoft Basic V1 – £12. Hisoft Devpac V2 – £12. Lattice C V5 – £40. All with full manuals. Call Andrew on 0788–811995. (35)

520 STFM with new internal drive, Pace Linnett Modem, Replay 8 sampler, Devpac 2, Ripper cartridge, assorted games and PD. £150 the lot. Phone Andy on (0435) 882121 or (071) 956 7075 weekdays. (36)

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Forget–Me–Clock unused £10, Zydec 3.5" External Drive, little used, boxed £30, Unused Atari Mouse £5. All + Postage. Phone Ted: 0983 294247 (35)

4MB upgraded STFM with external Mega keyboard and Mono monitor. D/S Internal/External drives. 80MB Protar HDD (Zero bad sectors). AT Speed 286 Emulator board. Forget–me–Clock and Fast Basic cartridges. Usual mountain of mags, manuals, discs etc. Deserter to PC camp. Cost £1390, yours for £450. Ian 0702–432844 (answer machine). (36)

Goldstar 386 SX PC Compatible 120MB Hard Drive, 3.5" and 5.25" Floppy drives, 3MB Ram, 512Kb VGA Card, Colour Monitor, Co–Processor, Logitech Trackerball, DOS 4.01 installed, First Choice Word – Processor/Data Base Included. All manuals. Virtually new, hardly uised, On–Site Warranty transferable – £750.00 ono. Phone John on Winchester (0962) 760045 after 7pm or weekends. (35)

Supercharger V1.4 IBM PC emulator (1Mb RAM and 8087 coprocessor fitted), connects to Atari ST via DMA port; with MSDOS 4.1, SC manual, 3.5" disks, power supply and cables, £100. PC–DITTO software PC emulator, manual and 3.5" disk, £10. MSDOS 3.3 manuals and 5.25" disks, £15. External 5.25" 40/80 track floppy disk drive (Power Computing) for Atari ST, integral mains power supply, £20. REDACTEUR 3 Word Processor, manual and 3.5" disks, £40. Telephone: Newcastle, Staffs, (0782) 610398 (evenings). (35)

Changing system! Mega 4 with Turbo 25 accelerator, TOS 2.06, Overscan & HD floppy drive. SM125 monitor, new series Power 900 40MB hard drive and Power Scanner included. All for £650, near offers considered. Telephone Watford (0923) 266636 evenings. (35)

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Casio FZ1 & Ensoniq EPS Shareware Sounds: Fabulous Sounds from the UK, USA & Sweden. £3.00 / Disk (DD) Including Postage UK. Send Stamped Self Addressed Envelope for free printed list to:– "Kave Studios", 45 Carnoustie, Worksop, Notts. S81 ODB. Tel 0909 486971. (36)

Canon – BubbleJet Ink Refill Service using highest quality permanent Black Ink. Cartridge inspection & test print-out included. Send Cheque or Postal Order payable to:– B. Tunnard. Address:– "Kave Studios" 45 Carnoustie, Worksop, Notts. S81 0DB. (Please package securely as this will be re–used for the return.) Tel. 0909 486971. (36)

## Authorware

If you would like to see your software featured in the ST Applications Authorware column please send us a review copy of the software and a rough outline of the advertising copy you would like to be printed.

### *Morse Master*

The complete morse trainer and simulator, with realistic 'on-air' emulator and integral editor, with complete control of your listening equipment. In addition to sending, your Atari can also receive and decode morse from your own key using the supplied interface cable. Send Cheque/PO for £29.99 payable to Boscad Ltd at: 16 Aytoun Grove, Balbridgeburn, Dunfermline, Fife, KY12 9TA. Telephone (0383) 729584 evenings for technical information.

### *STEN*

ST ENthusiasts disk magazine - for your copy send a disk + SAE to: Dave Mooney, 14 School Road, Morningside, Newmains, Lanarkshire.

### *SynTax*

The ST adventure magazine on disk! Reviews, solutions, hints, special features and much, much more. Runs in colour only. Produced bi-monthly. **SynTax** costs £3.50 an issue, £20 for a year's subscription. Cheques made payable to S. Medley should be sent to: 9 Warwick Road, Sidcup, DA14 6LJ.

### *Kitchen Design Program*

Create kitchen plans, and elevation views to scale from a wide selection of units and appliances with worktops, pelmets, etc. High resolution mono only. Lawrence Elliott, 42 Gwaun Coed, Brackla, Bridgend, Mid Glamorgan CF31 2HS.

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Clip Art specifically for Christian and Community Magazines. Seven disks of IMG images for DTP programs supplied with a printed picture catalogue of every image. Cost: £3 per disk plus P&P: total of £23 for the set. Cheques payable to: Peter Kempley, KemCom Designs, 21 Chart House Road, Ash Vale, Aldershot, GU12 5LS.

### *Calamus Manual*

This self-tutorial guide incorporating sections on frame drawing, entering text, changing fonts and styles, importing text and images, drawing boxes and lines, loading, saving, printing, text rulers, headers and footers and page numbers. Available at £5 (including postage) from: David Waller, The Sandon School, Molram's lane, Great Baddow, Chelmsford, Essex, CM2 7AQ. Cheques should be made out to 'Sandon School'.

### *Genealogy*

Newgen, my genealogy program, runs on any ST(E) or TT and is easy to use; it will print family trees, etc. Send large SAE for details or £17 for program. E G Richards, 2 Peckarmans Wood, London SE26 6RX.

### *Educational Adventures*

For ages 5-13. 88% in ST Format. £12 each. 50p per disk for demo's. CVS, 18 Nelson Close, Teignmouth, TQ13 9NH. Tel: (0626) 779695.

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Create good quality circuit diagrams quickly and easily. Comes with laser printed manual. Works with any ST or STe computer with monochrome monitors. Costs only £7.00: Send Orders to:

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A specialised database system for all scanner owners, this software has been designed to be very easy and quick to use.

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BSA Bantam 1968 175cc 4 Speed. Very usable British Motorcycle. Worth £350–£400. Exchange or P/Ex for Atari Computer. 0458–43785 (Somerset) (35)

Mega ST2, Blitter, Expansion Bus, etc. Atari SM125 Monitor. Progate 100MB Hard Drive. All excellent condition and boxed. Plus Software. Bargain £650 the lot. Tel 081–521 5271. (37)

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Microtext Teletext Receiver, receives and saves Teletext on your ST – all you need is an aerial! – £50. Migraph OCR, requires 2 Mb and Hard Drive – £25. STOS Maestro Plus Sampler Cartridge – £10. 081–851 5942 Steve. (35)

I have a few brand–new books – Practical Logo for the Atari ST – RRP £8.95 for only £4.95 inc P & P or only £5.95 including the DR Logo Language Disc. Contact Nigel Vandyk on 081–349 4705 for further details. (37)

Spare parts for STE 512:– 1MB Simms £25 each (4 only). Keyboard £20. Power supply unit £20. Internal 720k disk drive £25. Call Dave on 0705 698975. (35)

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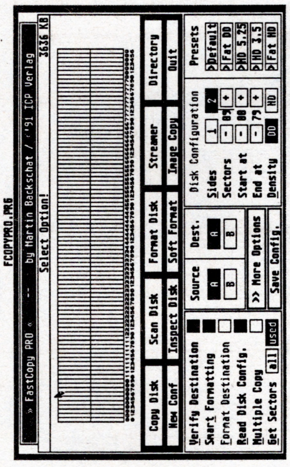
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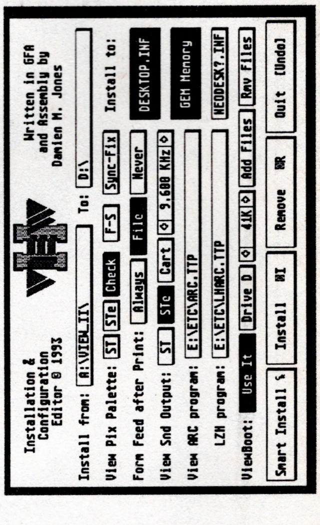
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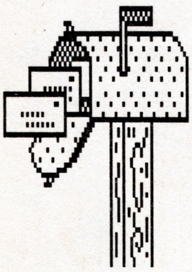

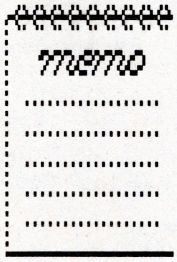

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| Calligrapher Pro | £79.00 |
| Calligrapher Gold | £109.00 |
| That's Write V1.4 | £19.00 |

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| Timeworks Publishing 2 | £80.00 |
| Calamus V1.9 | £129.00 |
| Calamus SL | £339.00 |
| OCR Software | £165.00 |
| Touch Up | £49.00 |
| Easy Draw (Supercharged) | £34.00 |
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# FaST Club

For users of Atari ST & Falcon computers

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| ☐ CalAssistant SL | £29.95 |
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